

NISHAPUR: Metalwork of the Early Islamic Period

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Assistant Keeper of Eastern Art, Ashmolean Museum, Oxford

The Metropolitan Museum of Art, New York

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Foreword

ONE OF THE MOST important and richest Islamic sites ever to be excavated is the medieval city of Nishapur, located in the eastern Iranian province of Khurasan. Founded during the Sasanian dynasty (and given the name “New Shapur”), it became the capital of the Tahirid dynasty in the ninth century, reaching its greatest prosperity under the Samanids in the tenth century, when it served as the seat of the governor and commander in chief of the province. Nishapur retained its importance under the Seljuqs, from its occupation by the first Sultan of this Turkic dynasty in 1037. In spite of its sack by the Ghuzz in 1153 and damage from a series of earthquakes in the twelfth and thirteenth centuries, it remained an active urban center until its destruction by the Mongols under Ghenghis Khan in 1221.

The site was chosen by the members of the Iranian Expedition of the Metropolitan Museum—Walter Hauser, Joseph Upton, and Charles K. Wilkinson—because, in addition to its political importance as attested to by medieval writers, Nishapur was a flourishing center for the production of arts and crafts as well as for trade. The Museum’s excavations were carried out from 1935 through 1939, with a final season in 1947. Reports of the excavations appeared in the Museum’s *Bulletin* in 1936 (September), 1937 (October), 1938 (November), and 1942 (April).

Due to the premature death of Walter Hauser and a change of course in Joseph Upton’s career, it fell to Charles K. Wilkinson to compile the first monumental publication of the excavations, which appeared in 1973 under the title *Nishapur: Pottery of the Early Islamic Period*. Wilkinson is currently preparing the forthcoming publication of the wall decorations excavated at Nishapur, which will be volume three in the series.

The present volume on the Nishapur excavations, *Nishapur: Metalwork of the Early Islamic Period*, has been fittingly entrusted to the vigorous English scholar James W. Allan. Allan, who is assistant keeper of eastern art at the Ashmolean Museum, Oxford, is also the author of *Persian Metal Technology, 700-1300 A.D.* (Oxford, 1979). In his painstaking cataloguing of the Nishapur metal finds and his intelligent discussions comparing the excavated pieces to others in collections throughout the world, Allan makes a major contribution to the literature on Nishapur.

The dedicated ongoing support of the Hagop Kevorkian Fund has made these important publications possible. We are most appreciative of the fund’s generosity, which has assured that fine scholarly works on Near Eastern and Islamic art continue to appear under the Museum’s imprint.

PHILIPPE DE MONTEBELLO, *Director*
The Metropolitan Museum of Art

Preface

I AM HONORED to have been asked by Richard Ettinghausen, the late consultative chairman of the Department of Islamic Art at the Metropolitan Museum, to undertake this catalogue of the metalwork excavated at Nishapur, and it is much to my regret that he did not live to see it and to comment on the observations it contains. My aim has been first and foremost to publish the objects, and to that end I have included as many photographs and drawings as possible. My second aim has been to try to place groups of objects in a cultural and historical context in which they become meaningful and interesting to archaeologists in the broadest sense of the title. Finally—since this is the first group of Islamic metal objects from an excavation in Iran ever to be published—I have tried to give an overall view of the material and of the metalworking tradition of which it is part, so that the objects can be related to general cultural and art-historical patterns.

Much of the work that I did on the Nishapur finds originated in my research on my D.Phil. thesis at Oxford University, and I am grateful to the university for financing my original visit to the United States, where I first studied the objects. It is most regrettable that the Nishapur metalwork in the Iran Bastan Museum in Teheran was never accessible when I was in Iran in the early 1970s and, to my knowledge, has not been accessible to any scholars since then. To publish unseen objects is obviously unwise, but I felt it was better to risk mistakes than to wait perhaps ten or twenty years—perhaps a lifetime—for the opportunity to examine the objects firsthand.

I am grateful to Charles K. Wilkinson, former curator of Near Eastern and Islamic art at the Metropolitan, for reading the text relating to the objects and for his many illuminating comments. I am also indebted to several others in America and my own country: to Manuel Keene, formerly of the Department of Islamic Art at the Metropolitan, for arranging my brief visit to New York in 1979 and for all his help at that time; to Helmut Nickel and David Alexander, of the Metropolitan's Department of Arms and Armor, who threw more light on the Nishapur sword in an hour than I had gleaned from books in weeks; to Helen Brown, of the Ashmolean Museum, and Michael Bates, of the American Numismatic Society, for their comments on the coin die and the weights; and to Francis Maddison, director of the Museum of the History of Science in Oxford, for his help with cataloguing the quadrant.

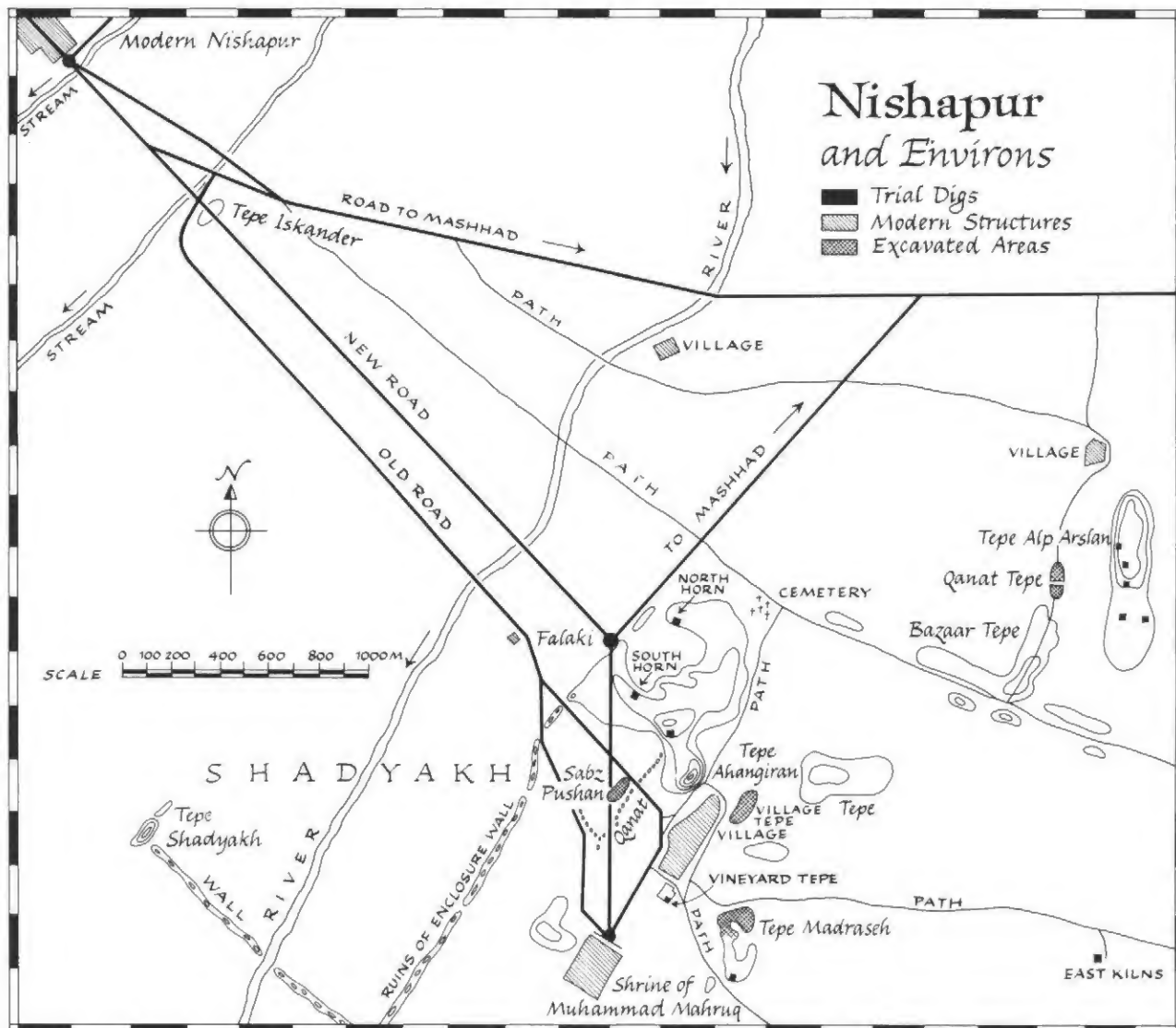
I am grateful, too, to my department at the Ashmolean Museum for encouraging me to work on this publication despite the fact that it has nothing to do with the Ashmolean's collections. I am indebted to Nora Addison, of the Department of Eastern Art at the Ashmolean, and to my wife, Jennifer, for sharing between them the task of typing the manuscript. Finally, I can truly say that without Jennifer's encouragement and understanding the whole project would have been unthinkable.

JAMES W. ALLAN

Technical Glossary

<i>Chasing</i>	Variously used in books on metalwork to mean any work done on sheet metal from the front, decorative incising of a metal surface, or surface modeling. Avoided here because of its ambiguity. (See Incising and Relief Decoration)
<i>Engraving</i>	Linear decoration of a metal surface by the removal of a sliver of metal using a very sharp-pointed tool or graver
<i>Filigree</i>	Decoration of a metal surface by soldering down fine wires
<i>Granulation</i>	Decoration of a metal surface with tiny spheres of gold
<i>Incising</i>	Used here to include both engraving and tracing, where objects have not been studied in sufficient detail for the technique to have been recognized with certainty
<i>Openwork</i>	Construction of a metal surface by soldering together smaller pieces of metal, leaving gaps in appropriate places between them
<i>Piercing</i>	Cutting of holes through metal
<i>Punching</i>	The production of a repetitive design on a metal surface by hammering with a patterned tool
<i>Relief Decoration</i>	Decoration that stands out from the surface of a cast- or sheet-metal object. In the latter case it may have been worked from the back (<i>repoussé</i>) and finished off from the front or worked wholly from the front
<i>Repoussé</i>	Relief decoration worked in sheet metal from behind, usually finished off from the front
<i>Tracing</i>	Linear decoration of a metal surface by displacement, using a tracer and hammer

Various institutions are cited in the discussions that follow. For brevity's sake, "East Berlin" is used to refer to the Islamisches Museum of the Staatliche Museen zu Berlin; "West Berlin" to the Museum für Islamische Kunst of the Staatliche Museen Preussischer Kulturbesitz in Berlin-Dahlem; and "Istanbul" to the Topkapi Palace Museum. In references to excavated material from other sites, the letters and numbers used are those given to the object concerned by the excavator. Thus, Siraf references consist of "S." (Siraf) followed by the year of the find (e.g., 69/70) and a find reference number; the Rayy references consist of site letters (e.g., RG) and a reference number. The Siraf material is in the process of being divided up among various supporting institutions, though a large proportion is likely to be retained by the British Museum; the Rayy pieces are in the University Museum of the University of Pennsylvania in Philadelphia unless otherwise stated; the Istakhr material is in the Oriental Institute of the University of Chicago; and the Susan pieces cited are in the Louvre. None of these collections of metalwork have yet been published.



Introduction

The Nishapur Excavations

The remains of medieval Nishapur, a great trading and manufacturing city situated on the Silk Road in the province of Khurasan, have for long been subject to the ravages of local farmers, who carry away the earth as fertilizer for their fields, and antique dealers, who sell their illicitly excavated objects on the art market. In 1935, after Charles K. Wilkinson of The Metropolitan Museum of Art had made preliminary investigations on the site, "the Museum's expedition conducted some test digs at selected points in the vast ruin fields of the ancient city. The tests confirmed the desirability of a sustained investigation, and a recommendation to this effect was made to the Museum's trustees by Maurice S. Dimand, the curator of Near Eastern art. Approved by the trustees, the project was financed from the Rogers Fund, and excavations were carried out under a concession granted the Museum by the Iranian government (Council of Ministers) on the recommendation of the Ministry of Education of Iran. Work began in 1935 and continued until 1947, with the active digging coming to an end in 1940, when the state of affairs caused by the outbreak of the Second World War made suspension advisable. A short season in 1947 was conducted to tidy up and to surrender the concession" (Wilkinson, *Nishapur*, p. xxiii).

The actual excavations have been described at length by Wilkinson (*Nishapur*, pp. xxviii–xl), and here it is simply necessary to summarize the more important facts. The excavations were spread over a number of different small mounds, or tepes, some with local names, others named by the excavators according to some relevant features: Sabz Pushan, Tepe Madraseh, Qanat Tepe, Village Tepe, Falaki, South Horn, Vineyard Tepe, Bazaar Tepe, and Tepe

Alp Arslan. In the excavators' opinion none of these sites have a Sasanian origin, and, apart from the odd stray coin, the finds are all attributed to the early Islamic period. The excavations were unstratified, and the dating of objects through their stratigraphic relationship with other objects is therefore impossible. This means that an object may be dated in two ways only: by the approximate dating given to the primary and terminal occupations of a particular tepe through a general study of the finds and by the form and decoration of the particular object concerned. As regards the former method, the following summary may be made of Wilkinson's datings of the various deposits. Sabz Pushan: in occupation up to the middle of the twelfth century, with particular emphasis among the coin finds of the mid-eighth to mid-ninth century. Tepe Madraseh: eighth to thirteenth century, with particular coin emphasis from the eighth to tenth century. Qanat Tepe: eighth to twelfth century, with particular coin emphasis on the eighth and ninth centuries. Village Tepe and Falaki: in occupation until the Mongol invasions and probably afterward. South Horn: only the twelfth- and thirteenth-century levels were investigated. Vineyard Tepe and Bazaar Tepe: in occupation up to the middle of the twelfth century. Tepe Alp Arslan: the tepe's apron in occupation in the ninth century. From this it is evident that in reality the excavations provide virtually no dating evidence for the finds and that dates must therefore be deduced from stylistic considerations.

In his catalogue of the pottery from Nishapur, Wilkinson (*Nishapur*, pp. xxiv–xxv) was at pains to exclude any material not excavated by the expedition or found by peasants working in the adjoining fields. This is definitely desirable in relation to

the pottery finds, in order to isolate Nishapuri products from the products of other kiln sites in Khurasan or Transoxiana, but it does not seem to me to be a necessary prohibition with the metalwork. The publication of the present catalogue is not offered as evidence of Nishapur as a metalworking center, although such evidence does exist (see pp. 22–23), but rather as evidence of the sort of metal objects that were circulating in Khurasan in early Islamic times. I have therefore chosen to include the objects purchased by the excavation in Nishapur, though I have made it clear in the catalogue that they are not excavated pieces.

Other Excavations in Iran of the Islamic Period

In order to assess the significance of the metalwork excavated at Nishapur, it is desirable to consider the other excavations undertaken on Islamic sites in Iran and the metal finds from these sites. The most important excavations other than Nishapur are Susa, Rayy, Istakhr, and Siraf. Susa was first excavated by Loftus in 1851–52 and was then taken over by French archaeologists—Dieulafoy (1884–86), de Morgan (1897–1910), de Mecquenem (1908–14, 1920–33), and finally Ghirshman, who has been leading the French Archaeological Mission's excavations at the site since 1964. Rayy was excavated by Schmidt on behalf of the University Museum in Philadelphia and the Museum of Fine Arts, Boston, in 1934; Istakhr by Schmidt on behalf of the Oriental Institute of the University of Chicago in 1935–37; and Siraf by Whitehouse for the British Institute of Persian Studies in 1966–73. None of the metalwork from these sites has been systematically studied or published, and it would appear that only at Siraf was the excavation sufficiently scientific to offer stratigraphical dating for the finds.

The objects recovered from all these excavations show that the metal objects in museums and collections around the world and those presently circulating on the art market are not representative of the great bulk of the metal objects manufactured and used in early Islamic Iran. The Susa excavations brought to light nineteen bronze wall hooks similar to those illustrated in the 595/1199 *Kitāb al-Diryāq*

(*Trésors d'Orient*, no. 190; see p. 98 for the Nishapur example) and an interesting selection of box handles and pins. The Rayy excavations yielded a substantial number of finger rings and pendants, spatulas, spoons, and pins, appliqués, hinge fittings, handles, and bells, as well as numerous other small bronze and iron objects. Istakhr produced large numbers of small vessels, many cast fittings, spatulas, and kohl sticks, together with objects such as belt fittings and jewelry. The excavations at Siraf revealed vast quantities of iron objects like nails and blades and a wide assortment of bronze items, including kohl sticks, weights, needles, handles, bells, and spatulas. The objects from these sites are thus far more representative of everyday private and commercial life in early Islamic Iranian cities than the luxury objects that are all that illicit excavators think worth keeping.

Metalwork Hoards from Iran

Although objects excavated at the sites mentioned are the most important evidence we possess of the distribution of particular objects in medieval Iran (a very few inscribed objects state where they were made), certain groups or hoards of objects should also be mentioned. Three of these hoards are relatively well known. The first is in the British Museum and is connected with Nihavand in western Iran. That findspot is by no means confirmed, but since Nihavand is not part of the antique dealers' usual jargon (cf. their use of Gurgan and Nishapur for pottery), it may well be the true source of the hoard. Apart from a small gold bowl, it consists of silver objects—belt fittings, weapon fittings, beads, and an amulet case—and its owner was probably the Turkish officer named on a ring-type object of unknown use as al-ḥājib al-jalīl Abū Shujā' Injū-takin. The hoard was published by Gray, and he and Ettinghausen agree on an eleventh- or twelfth-century Seljuq date for the objects.

A hoard of no certain origin is the group of silver objects bearing the name of the emir Abū'l-'Abbās Valkīn ibn Hārūn, which Melikian-Chirvani ("La Coupe," p. 144, n. 2) has reread as Valgīr ibn Hārūn. The hoard is now in the Archaeological Museum, Teheran. According to the catalogue of the

1931 exhibition held at the Royal Academy, London, it consists of eleven items: three bowls, two saucers, a ewer, a bottle, a vase, a jar, a cup, and a dish (A. T. Wilson, no. 139, A–L), of which the two saucers and cup have never been fully published. Wiet, who first published the inscriptions on these objects (pp. 13–21), suggested a 950–1020 dating on the basis of the epigraphy and very tentatively identified Abū'l-Abbās as a Daylamite prince living in Azerbaijan about A.D. 957. The latter point must remain for the moment pure conjecture, but a dating of about A.D. 1000 is very likely on the basis of two stone inscriptions from Luristan published by Eilers (pp. 34–35) and dated A.D. 934 and 1008. The style of script is remarkably close to that on the silver objects.

A third hoard was previously part of the Harari collection and is now in the L. A. Mayer Memorial Institute in Jerusalem (Pope, *Survey*, pls. 1349–52; Allan, “Silver,” figs. 63–68). It is reported to have been found stored in an earthenware jar somewhere in northern Iran (Pope, “Treasures”) and consists of seven rosewater sprinklers, including two pairs, four handled incense burners, two dish incense burners, three jugs, a handled bowl, two caskets, one spoon, and a large assortment of harness ornaments, apparently from two different sets. All but the harness pieces were shown in the 1931 exhibition (A. T. Wilson, no. 131, A–T). It is regrettable that the harness pieces have never been published. Stylistically the hoard appears to consist of two main groups of objects with some odd intermediate pieces. Both these main groups include incense burners, rosewater sprinklers, and drinking vessels, suggesting that the last owner of the hoard amalgamated two sets of similar objects to produce a single more numerous but only slightly fuller set. One group is of Khurasani origin and is probably late tenth century in date; the other dates about a century later and was probably made somewhere in northern Iran.

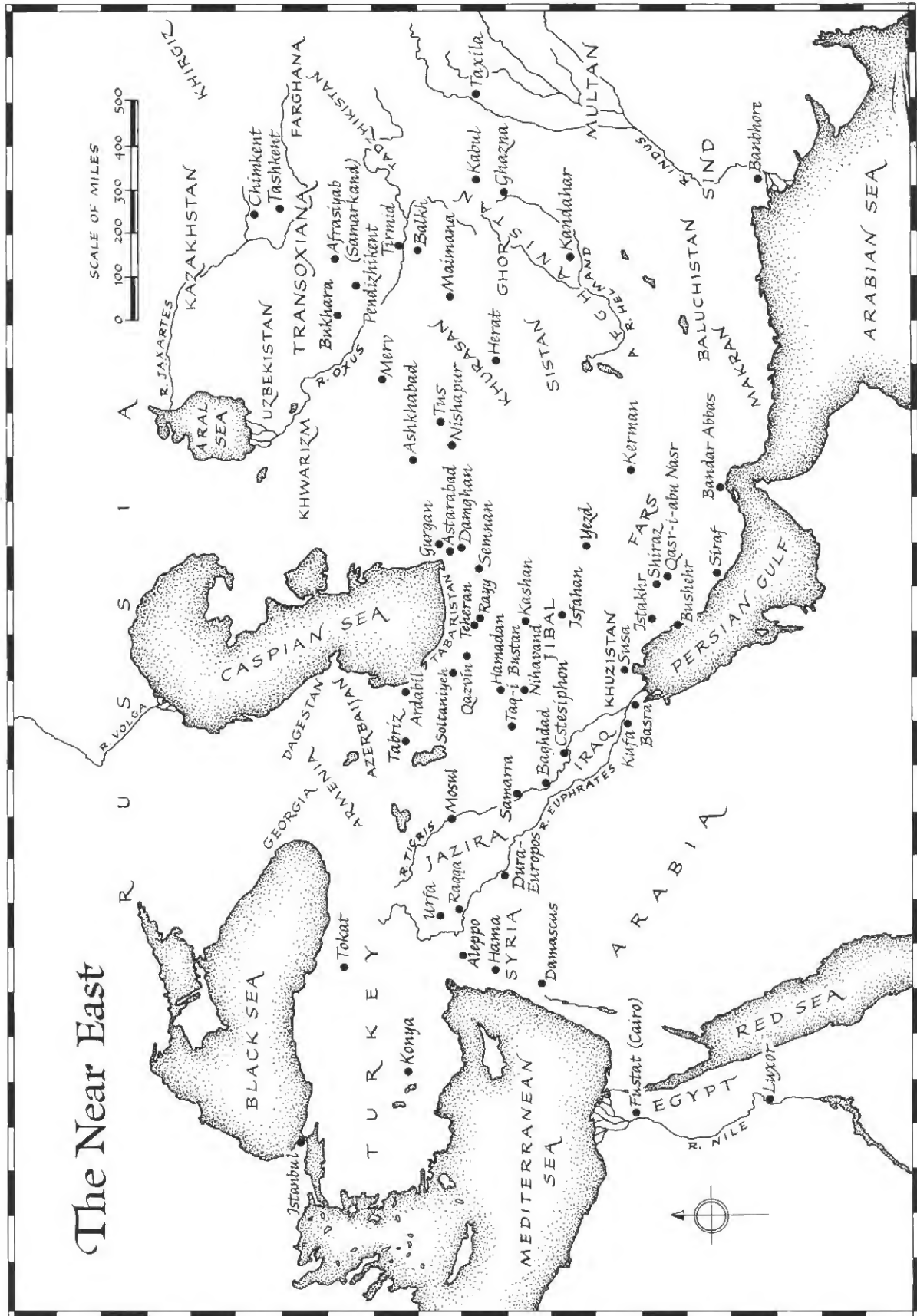
The only hoard of precious metal to come from a definitely known site is the so-called Chimkent hoard, published by Spitsin. This is less well known than the three other hoards mentioned and was found at a place called Sayram Su in the Chimkent district near the Jaxartes in 1900. It is a collection of pieces of silver and coins, including many broken

fragments of both, evidently put together for the purpose of remelting. The coins date from the mid-tenth to mid-eleventh century, and, assuming that they were no longer negotiable, they can hardly have been buried before the mid-twelfth century. It is virtually impossible to be sure of the precise date and provenance of specific items in the hoard because of their small size, small scale of decoration, and generally fragmentary nature, although they are definitely pre-Mongol. It is perfectly possible that they were all manufactured in Transoxiana, but, since many of the same object types occur in excavations in Iran itself, they almost certainly represent fashions current throughout that country. Among the silver objects represented are belt fittings, amulets, bracelets, and earrings.

A rather different quality of object is represented by one final hoard that deserves mention—that found in the town of Maimana in Afghanistan (Scerrato, “Oggetti metallici,” II). Among the thirty-two objects from this cache are many of bronze—two lampstands, a possible *guttus* (lamp filler), a mortar and pestle, two hemispherical cauldrons, a lamp, two spherical-bodied ewers, three cylindrical-bodied ewers like those found at Nishapur (nos. 93–99), and a number of dishes—as well as a lead saucer and some fragments of iron, possibly from a set of door fittings. Scerrato suggests that these objects were buried at the time of the Mongol invasions.

All five hoards reveal different aspects of the culture of early Islamic Iran. The Chimkent hoard mainly reflects jewelry fashions; the Nihavand hoard gives important evidence of the personal equipment of a Turkish officer; the objects in the Valgīr hoard are an emir's personal plate and show a remarkable emphasis on the consumption of liquids. The Harari hoard illustrates the more refined side of the life of the wealthy—the vessels suggest a great consumption of incense, rosewater, and, presumably, wine, and the two caskets indicate an appropriate quantity of jewelry. The Maimana hoard, on the other hand, is utilitarian and is presumably much more representative of the type of metal objects to be found in a standard medieval Iranian town house. These hoards provide an important background to the objects excavated at Nishapur; they also offer intriguing comparisons.

The Near East



The History of Metalwork in Early Islamic Iran

In recent years, increasing emphasis has been put on the importance of Khurasan and the northeastern Iranian provinces, including Transoxiana, in the development of metalworking in early Islamic Iran as a whole. Since Nishapur was for many centuries the leading city in the province of Khurasan, it seems appropriate to try to draw together past studies and to include here a general assessment of the role of the northeastern provinces and their products and the reasons for their fame.

It is difficult to speak with any authority of the metalwork of northeastern Iran in pre-Islamic times. Transoxiana certainly had a flourishing industry, for it was in pre-Islamic Sogdiana beyond the Oxus (medieval Soghd) that large quantities of silver objects now in the Hermitage Museum were produced (Marshak, *Sogdiyskoe Serebro*). Handled drinking cups, pear-shaped ewers, lobed dishes, and shallow wine cups decorated with animals and palmettes are typical silver products of Sogdiana between the sixth and ninth centuries, and in the last half-century of that period the influence of the by now Islamic culture is found in the depiction of regal figures wearing caliphal crowns (Marshak, *Sogdiyskoe Serebro*, nos. 30, 31). One of these may even be the caliph al-Ma'mūn (813–33). Elsewhere in pre-Islamic Iran, probably in the west, in one of the Sasanian capitals, were produced wine bowls decorated with imperial hunting scenes. It is plausible and tempting to see a further group of objects—some magnificent sheet-metal ewers worked in repoussé and a group of bottles manufactured in the same technique—as products of a workshop located farther to the east. The Buddhist influences visible in the naked dancing figures in the decoration would then be easily explicable. Here Khurasan would be a logical attribution, particularly in view of the repoussé tradition for which it was so famed at a later date.

Turning to the Islamic period, the earliest reference to silversmithing in Khurasan seems to be that in al-Ṭabarī (Hamilton, "Pastimes," p. 155), who says that the governor of Khurasan, Naṣr ibn Sayyār, ordered wine jugs of gold and silver to be made, pre-

sumably in local workshops, as gifts for the caliph al-Walīd ibn al-Yazīd in 125/743. For the next three centuries information is extremely scarce, and it is in the eleventh century that we first hear of a silver-smithing town—Balkh, which, according to al-Baihaqī (Marshak, "Serebranīe sosudī," p. 164), had a silversmithing quarter. A bottle bearing the name of Sheikh al-ʿamīd al-sayyid Abū ʿAlī Aḥmad ibn Muḥammad ibn Shādhān, a vizier of Balkh in the mid-eleventh century, must presumably therefore be a product of that city. It gives some idea of the style of decoration current at the time—animals in roundels, palmettes in pear-shaped cartouches, inscriptions in rectangular cartouches, each unit with its background of stylized vine-scrolls (Smirnov, pls. 81, 83, no. 147). A different style of silverwork—objects decorated in repoussé with lush stems and heavy leaf forms (Allan, "Silver," figs. 63 left, 64 left, 66 center, 67 left) that recall designs on Samanid pottery—may be the product of some other northeastern town. The inscriptions suggest that these latter objects are probably post-Samanid, i.e., eleventh-century Ghaznavid products, and it is tempting to suggest Herat as the source. Herat was, after all, from A.D. 1100 onward the center of the brass-beating-and-inlaying industry, which included a notable emphasis on repoussé work, and this has been shown to have its origin in such a sheet-silver tradition (Allan, "Silver"). One other particularly outstanding and individual object deserves mention: the saucer-sized bowl in the State Hermitage Museum, Leningrad, bearing a portrait of a Ghaznavid ruler, perhaps even Maḥmūd himself (Marshak, *Sogdiyskoe Serebro*, fig. 29). Could this be a product of Maḥmūd's capital, Ghazna?

We are somewhat better informed about bronze-working in the northeast prior to A.D. 1100. Northeastern bronzes are less decorative in their surface ornament than their silver counterparts, but are striking in other ways. For example, there is notable emphasis on zoomorphic forms. Certain ewers were produced with zoomorphic spouts (Pope, *Survey*, pl. 1277B; Allan, "Silver," figs. 2–4). Incense burners were manufactured in a wide variety of zoomorphic and ornithomorphic styles, and sculpture of animals and birds in the round was treated more seriously than during any subsequent period (Pope, *Survey*,

pls. 1297, 98; Allan, "Silver," figs. 8–12). Taking this a stage further, incense holders were made in the same form as bird incense burners to give pairs of matching three-dimensional ornithomorphic objects—a fashion otherwise unknown in early Islamic Iran (Fehérvári, nos. 109, 110, the latter an incense holder). Interest in form among the bronze casters was not limited to animal and bird styles, however, for it is also visible in bronze bottles and lamps. The bottles are usually decorated with almond-shaped bosses, but the lamps are generally undecorated; in both a wide variety of forms is found. Taste was clearly adaptable, and originality of form was highly regarded (Allan, "Silver," figs. 21–25). Surface ornament does, of course, occur—for example, on objects associated with incense. Here, too, however, the object is evidently seen as a three-dimensional form rather than a flat canvas; the commonest mode of ornament used is piercing, a technique that gives far greater emphasis to volume than does either engraving or tracing.

The various bronze object types mentioned so far have been found over a wide area in the east and northeast of Iran and in Afghanistan. Other types, on the other hand, were only manufactured in specific, limited areas. In Transoxiana two particularly noteworthy styles of object were produced: a group of tenth- and eleventh-century bowls and a group of late eleventh-century ewers. The ewer form shows that feeling for and interest in three-dimensional shape were not confined to Khurasan and Sistan. With high, splayed foot, pear-shaped body, flat shoulder, narrow, cylindrical neck, bulbous, lidded mouth, high, pointed spout, and angular handle, these ewers exaggerate features found in Iraqi and Khurasani ewer forms and combine them into something of rather startling originality—indeed, something almost approaching caricature. Like the Khurasani products, they are sparsely decorated, though they do have disks of copper inlay derived from Abbasid Iraqi tradition.

Such regional individuality occurs not only in low-tin bronzes but also in high-tin bronzes. Thus, in Sistan the most notable products were the large hemispherical high-tin-bronze basins made for the Ghaznavid court (e.g., Ettinghausen, "The 'Wade Cup,'" figs. 10, 13, 14; Melikian-Chirvani, "Iranian

Metal-work," figs. 1, 2). It is noticeable that these ablutions basins are of quite different shape from the ablutions vessels manufactured in Khurasan and Transoxiana; in the latter provinces buckets were used, following Abbasid tradition (e.g., Ettinghausen, "The Bobrinski 'Kettle,'" fig. 6; cf. the buckets found with the so-called Marwan ewer [Rubensohn and Sarre, fig. on p. 85]). On the other hand, certain high-tin-bronze objects manufactured in Khurasan are more notable for their decoration than their shape. They are ornamented with two-dimensional geometric patterns using dots, circles, disks, and straight lines, and it has been suggested that these features are part of an ancient Iranian decorative vocabulary (Melikian-Chirvani, "The White Bronzes"). It is also possible, however, that they should be seen here as derived from the Khurasani stoneworking tradition (see pp. 22–23). Transoxiana also showed its individuality in its high-tin-bronze products. Indeed, the magnificence of the great dish in West Berlin decorated with a domed building amid foliage suggests that it was in this area—the ancient Sogdiana—that the center of the high-tin-bronze industry was really to be found. This is not unexpected in view of some comments by the eleventh-century historian and scientist al-Birūnī, who claims that high-tin bronze developed as an alternative to silver. Silver had, after all, been the outstanding product of pre-Islamic Sogdiana (Allan, *Persian Metal Technology*, pp. 47–48).

The possibility of Transoxiana's supremacy in this field is supported by other textual evidence. The tenth-century geographer al-Muqaddasī mentions Rabinjan as a production center for high-tin-bronze cups or bowls and also emphasizes the importance of Transoxiana as a low-tin-bronze-manufacturing province; Bukhara produced bronze lampstands and Samarkand large copper cauldrons (al-Muqaddasī, pp. 324–25). Other textual evidence supports this emphasis: al-Narshakhī calls Baikand and Bukhara "copper cities," presumably in reference to their products, and records Shargh as a copper-producing town (al-Narshakhī, pp. 13, 16, 20). Khurasan, surprisingly, receives only one mention in the geographical texts—by al-Muqaddasī, who talks of Merv as a copper center (p. 324). Sistan is scarcely more indulged: according to Ibn al-Faḥḥ (p. 254),

implements were produced there in a variety of copper alloys, and, according to al-Birūnī, high-tin bronze was also among the Sistani products (p. 264). If the textual evidence gives the greatest prominence to Transoxiana, it nevertheless suggests an industry that was spread throughout the northeast, and the sheer quantity of references compared to those for the rest of Iran shows how important the northeast was for metalwork of all sorts.

The achievements in the northeast in this early period, however, do not suggest that that area was an isolated cultural unit, which could be judged without regard to a wider cultural context. The faith practiced there was the product of a politico-religious movement that emanated from beyond Iran's western boundaries, and, until the middle of the ninth century, at least, its future was closely bound up with politics farther west, in the heart of the Abbasid state, in Iraq and the Jazīra. It was only with the drastic economic decline in Iraq in the early tenth century that the northeast rose to a position of approximate equality, and then, under the Samanids and Ghaznavids, to an era of unrivaled wealth. Prior to the ninth century, cultural influence from Iraq is thus to be expected, and it is therefore no surprise to find it in two particular metalworking traditions. The first involves three-dimensional bird forms used in the central Abbasid lands in the late eighth century for aquamaniles. One example dated 180/796–97 is in the State Hermitage Museum, Leningrad (Sourdel-Thomine and Spuler, pl. XVI and p. 187), and other examples are in West Berlin, St. Catherine's monastery at Mt. Sinai, and Lucca (*Museum für Islamische Kunst*, no. 234, pl. 37; Weitzmann, p. 122; Bertolini and Bucci, no. 19 and pl. 11). Related in form to these is a cock (Sarre and Martin, pl. 134), which one would attribute to the same source were it not for its decoration. The figure bears motifs current in Khurasan in the tenth century alongside an enthroned figure related to such imperial scenes on Iraqi objects; it is evident that there is here a tradition that moved eastward and took central Abbasid forms into the northeastern provinces. Moreover, it is probably from this tradition that the northeastern forms of bird incense burners and incense holders already mentioned developed.

A second instance of this eastward movement of forms and the influence of Iraq on the northeast involves ewers. Besides the numerous gold and silver vessels that must have crowded the caliphal kitchens in Baghdad and Samarra, there were also notable bronze objects, which included pear-shaped ewers with either round mouths or tubular spouts. Marshak ("Bronzovyy kuvshin iz Samarkanda") has pointed out that the round-mouthed variety occurs in the late eighth or late ninth century in Iraq (the Basra ewer), in the tenth century in Iran (the Lewisohn ewer), and in the twelfth century in the northeast (the Samarkand ewer and other examples). The same eastward movement can be shown in the case of a group of ewers with inverted pear-shaped bodies and tall cylindrical necks. The "Nishapur ewer" (no. 100) is an important example of this group. Here, too, we have examples from Iraq (Ḥamīd, figs. 1–4), from tenth-century Iran (a ewer in the Metropolitan Museum, acc. no. 32.66; Scerrato, *Metalli islamici*, pl. 12), and a number of pieces, like the Nishapur ewer itself, from the northeast in the twelfth/thirteenth century. Interestingly, the Iraqi tubular-spouted ewers were the source of the flat-spouted style current in the east in the tenth and eleventh centuries (Marshak, "Bronzovyy kuvshin iz Samarkanda," fig. 12).

Although for a time under the Seljuqs the northeast was united politically with more westerly provinces, there was never at any later period a more westerly power center that could have influenced taste in the lands around the Oxus in the way that has just been outlined. For this reason, although it is true that forms inherited ultimately from Iraq are found in the northeast in the twelfth and thirteenth centuries, there is no direct cultural influence discernible; the northeast now developed according to its own taste and circumstances.

Circumstances in the northeast in the century prior to the Mongol invasions were far from normal, however, and there occurred here the most important change in direction that the Islamic bronze-working industry was ever to undergo. As far as we can tell, the problem was a shortage of silver after centuries of abundance. So difficult was silver to obtain that the great silversmithing workshops of the northeast seem to have been faced with a

critical decision: either to close down altogether or substitute silver with another metal that would be readily salable to their numerous wealthy customers. The result was the start of a completely new industry: inlaid sheet brass. It was sheet metal because the silversmiths were craftsmen skilled in sheet silver; it was brass because brass is the most eye-catching, most luxurious, and nearest to gold of all base-metal alloys; it was inlaid because polychromality in the form of gilding and black niello inlay had for centuries been essential parts of the silversmiths' trade. Using shapes previously fashionable in silver, the craftsmen started producing brass candlesticks, jugs, ewers, and other objects enriched with small amounts of that precious commodity, silver, and, on occasion, copper. Thus was created an industry that within a century was destined to spread to Anatolia, to Syria, and to Egypt, where objects were produced that have been held in the highest possible esteem by men of taste ever since.

This gradual flooding of the market with highly decorated brass objects had immediate profound effects. Take for example oil lamps. Craftsmen in the east and northeast of Iran in the pre-A.D. 1100 period had produced a wide variety of forms (pp. 46–47), some with long spouts rather like elephant trunks, others with triangular open spout forms (e.g., Nishapur no. 106), and still others with legs or with a larger number of spouts; handles varied as much as other features. But in the twelfth and early thirteenth centuries virtually only one form is found—one with a flat top, tall loop handle, pinched spout, narrow stem, and flared base (e.g. Pope, *Survey*, pl. 1312A, C). Whereas earlier lamps had remained almost undecorated, these objects are densely covered with incised and inlaid designs, and it is evidently the luxuriousness of the decoration that attracted the purchaser, not the form itself. The art of bronze casting must inevitably have been relegated to a lower grade than the art of inlaying, and the latter evidently rose to be the most esteemed of the metalworker's crafts. This was a situation that remained constant in Iran for a full two hundred years. Only in the fourteenth century, presumably because of the increased amounts of silver in general circulation, did the bronze caster's craft reach new heights, as demonstrated in the workmanship of the magnifi-

cent bronze cauldron from the Friday mosque in Herat, made between 1308 and 1328, and that from the mosque of Khwāja Aḥmad Yassavī in Turkistan City made in A.D. 1399 (Niedermayer and Diez, pl. 152; Yakubovski, pl. cxix).

The heart of the new inlaid bronze and brass industry was the province of Khurasan, and in particular the city of Herat. Primary evidence for this is found on two famous objects—a ewer of beaten and inlaid brass in the Georgian State Museum in Tiflis, which carries the information that it was decorated by Maḥmūd ibn Muḥammad al-Haravī (i.e., “of Herat,”), in Herat, in the year 577/1181–82 (Mayer, *Islamic Metalworkers*, p. 59) and the so-called Bobrinski bucket in the State Hermitage Museum, Leningrad, which bears an inscription naming the two craftsmen who made it and inlaid it “in Herat” in the year 559/1163 (Mayer, *Islamic Metalworkers*, pp. 61–62). Secondary evidence is found in one geographical text—the thirteenth-century *Cosmography* of al-Qazvīnī, which states that Herat produced bronze vessels inlaid with silver (II, pp. 322–23). Whether the *nisbas* of craftsmen from elsewhere in Khurasan indicate that Nishapur and Merv were also important metalworking cities is unclear (see p. 23), but the fact that they are Khurasani *nisbas* and not Jibali or Transoxianian ones emphasizes the overwhelming importance of this province in the twelfth and early thirteenth centuries.

That is not to deny the other provinces of the northeast a role in the manufacture of bronze. Sistan was probably producing certain individual types of object—for example, a shallow basin form with a cusped rim and sometimes a central raised rosette inlaid with silver (Pope, *Survey*, pl. 1289A). Two examples from Gazab in Kandahar have been published by Scerrato (“Oggetti metallici,” I, figs. 9–13), who mentions others from Ghazna, Girishk, and Namzat near Kandahar, Maimana, and Herat. Another piece from Afghanistan is in the Louvre (Marchal, n. 39). The only direct parallel to the silver-inlaid rosette is a rosette on a tile from Ghazna (Scerrato, “Summary Report,” fig. 28), and these basins could be products of Ghazna itself prior to its sack in A.D. 1149. Another type of Sistani product consists of objects worked in repoussé but not inlaid. Typical examples are tabletops and circular cymbal-like objects of unknown purpose (Melikian-

Chirvani, "Les Bronzes du Khorâsân," II, pls. 2-9, 11). Transoxiana was the source of a group of magnificent inlaid high-tin-bronze dishes and bowls (Ivanov, nos. 6-13; Melikian-Chirvani, "Les Bronzes du Khorâsân," I, figs. 1-7, 12-15, 19; Ettinghausen, "The 'Wade Cup,'" figs. 28-30; Bernshtam, fig. 74; Melikian-Chirvani, *Le Bronze iranien*, pp. 32-33; Grohmann, "Die Bronzeschale"). With geometric and vegetal forms not found on normal Khurasani objects, with a characteristic beveled style of incising, with copper inlay of a peculiar tomato color, and with a bowl shape of rather exaggerated profile, comparable to the ewers previously mentioned, these magnificent objects show the high quality of workmanship still found in lands beyond the Oxus in the twelfth century.

The discussion so far shows that the northeast as a whole was a key area in the development of Iranian metalwork and that Khurasan was indeed the center, the most important province, for the production of precious metal, bronzes, and brasses prior to the Mongol conquests. But what of the rest of Iran? Was no metalwork made in Rayy or Tabriz or in the south and southwest? What of that key Iranian Islamic province Jibal? No satisfactory answer to these questions is possible at present. Isfahan was without doubt the center of the astrolabe industry in early Islamic Iran (Allan, *Persian Metal Technology*, pp. 54-55), and Tabaristan and the Caspian provinces in general were probably important silverworking areas for a number of centuries (Allan, *Persian Metal Technology*, p. 21; Melikian-Chirvani, "The White Bronzes," p. 133), but there is all too little information about the bronze industry. Al-Muqaddasî (p. 396) maintains that Hamadan produced high-tin bronze, and that writer's general reliability suggests that his statement must be believed until disproved, though not one high-tin-bronze object can yet be attributed to Hamadan. Moreover, the metal objects excavated at Rayy and Siraf, and to a lesser extent at Istakhr, are disappointing in their quality and variety, though their future publication may show them in a new light. That there was a bronze industry of some sort in the southwest, however, does emerge from one small scrap of evidence. A bronze lamp found at Siraf is of a form that occurs in bronze in lower Mesopotamia and Sind, but not in the northeast of Iran. Clearly

the south coast did not import bronzes from the northeast, and there must have therefore been a more local industry that provided for the everyday needs of its people.

It is evident, however, that whatever is found in the future, there is no likelihood of Khurasan and the northeast provinces being supplanted as the producers of the finest Iranian Islamic metalwork, and the question naturally arises as to why they, rather than any other provinces, should hold that position. A number of points are relevant here. First of all, pre-Islamic Sogdiana was itself a silverworking area of the greatest international importance, strongly influencing T'ang China. Secondly, other areas of Iran, during the formative Islamic period under the early Abbasids, were too close to the center of Islamic civilization, Baghdad, to be able to create and maintain an independent and vital cultural tradition of their own. The northeastern provinces early on became separate political entities, and after the decline of the Abbasid caliphate they were too remote to come under the general sway of Iraqi culture, even if occasional specific influences can be traced. Thirdly, the mineral wealth of early Islamic Iran centered around the very provinces we have been discussing. Of course, metals were found elsewhere in Iran—copper and lead in numerous different places, iron in Kirman, gold in the west—but enormous deposits of all these metals and others were found in Khurasan, Transoxiana, and Sistan. These are therefore the lands in which we should look for a flourishing metalworking industry. And we find not only precious metal and bronzes and brasses of all sorts, but iron and steel, too. Here again the northeastern provinces are the key area. The finest Iranian swords—indeed, the finest swords in Islam prior to the rise of the Indian industry—were produced in Transoxiana from the ninth to the thirteenth century; Herat exported cakes of steel to Sind and Multan for making into swords; Ghor was the most important area in Iran for the manufacture of arms and armor (Allan, *Persian Metal Technology*, chap. 3). The resources and manufacturing traditions of these provinces thus further strengthened their cultural, political, and military autonomy, which in their turn led their occupants to place more emphasis on their own metal products.

The final legacy of the northeast, as we have

hinted, was even more impressive than those magnificent objects it produced. For, as the threat of the Mongol invasions grew, craftsmen had to seek a livelihood elsewhere. Since the Mongols were approaching from the northeast, the craftsmen moved westward, and in the early thirteenth century they set up workshops in centers that, at least for the time being, seemed safe sanctuaries. In Mosul, under the patronage of Badr al-Dīn Lu'Lu', a group of craftsmen founded an industry that specialized in beaten brasses inlaid with silver, while in Seljuq Anatolia another group founded an industry specializing in inlaid high-tin bronzes (Rice, "The Brasses"; Allan, "Originality in Bronze" and "From Tabriz to Siirt"; Soucek, nos. 69, 70). From Mosul the fashion spread; workshops grew up in Syria and later Cairo, and thus developed the inlaid-brass industry of the Ayyubids and Mamluks—an industry that owed its existence to the superb Khurasani products of the late twelfth century, and which was without doubt responsible for the most striking Near Eastern Islamic works of art prior to the Ottoman conquests. Nor was the flight of craftsmen westward the end of the story in Iran itself. In the wake of the Mongol invasions and the establishment of the Il-Khanid dynasty, imperial patronage in the northwest of Iran and provincial patronage in Fars both led to the establishment of schools of brass workers and inlayers. In the capable hands of these craftsmen the style was to continue for at least fifty more years and to reappear in one final notable flowering at the end of the fifteenth century in Herat under Sultan Husayn Bayqarā.

Clearly the role of the northeastern provinces is fundamental not only to our understanding of pre-Mongol Islamic metalwork in Iran, but also to our view of Islamic metalwork over a far greater period of time and throughout a much vaster geographical area.

Nishapur as a Metalwork Center

The medieval historians and geographers of the Islamic world testify to the importance of Nishapur as a political and commercial center. Ibn Ḥawqal says that Nishapur was the most populous town in

Khurasan, famed for its rich merchants and the store of merchandise coming in daily by caravan (Ibn Ḥawqal, pp. 310–12). Al-Muqaddasī says that the town had forty-two quarters, and the geographers attest to the wide variety of trades represented there. None, however, speaks of metalworkers as such, and it remains to be seen whether one may assert that such craftsmen were in fact present.

Quite apart from the general points discussed in the previous section, five small pieces of evidence suggest that it is highly likely that a variety of metalworkers plied their trades in medieval Nishapur. In the first place, we know that Nishapur was a flourishing mint town for many years. From surviving coins it is certain that with only rare exceptions the mint was in operation during the years 191–209/807–24, 260–84/873–97, and 292–550/905–1155 (Zambaur, p. 259)—in other words, almost continuously from the beginning of the ninth to the middle of the twelfth century. From this evidence alone, it seems highly likely that there were other metalworkers in the city, for a mint requires large amounts of metal and hence an organized trade in raw metals. It will consequently draw craftsmen who can benefit from this already established situation.

The second point to be noted is that the Nishapur area is mentioned by the geographers in connection with the mining of silver, copper, lead, and iron. According to Ibn Ḥawqal (p. 434), the Nuqan Mountains near Nishapur produced silver, copper, and iron, a fact confirmed by al-Hamdānī (fol. 25a), who talks of silver coming from Tus and Nishapur and iron from Tus, and by the anonymous author of *Ḥudūd al-Ālam* (par. 29.42). The latter author also mentions Tus as a lead-producing town (par. 23.11). Given that Nishapur was the focus of its region, it is logical to surmise that the metals produced in the region were worked in Nishapur, although they may have been worked elsewhere as well.

The third point relates to the high-tin-bronze objects discussed by Melikian-Chirvani ("The White Bronzes"). Here he identifies a group of objects—bowls, dishes, and spoons—that have two particular characteristics. First of all, they are of a copper alloy containing about twenty percent tin (i.e., high-tin bronze); secondly, they are decorated with geo-

metric patterns, in particular with dot-and-circle motifs, dots, lines, and disks. A number of the examples he illustrates or mentions are reported, on the evidence of Parvin Barzin of the Islamic Department of the Iran Bastan Museum in Teheran, to have been seized as illicit finds from commercial digs in Nishapur (Melikian-Chirvani, "The White Bronzes," figs. 16–19, 25). Of course, that does not of itself mean that the bronze objects are products of Nishapur, any more than it means the objects excavated at Nishapur were certainly produced there. One point about their decoration, however, suggests that there may be a connection. Melikian-Chirvani himself notes the use of the patterns found on these high-tin bronzes on stoneware from the Nishapur excavations (Melikian-Chirvani, "The White Bronzes," p. 145), and this stoneware was undoubtedly produced locally, since Nuqan, or Tus, a little farther east, is attested as the center of the stoneware industry. Al-Thaʿālibī in the eleventh century says that cooking pots (*quḍūr*), frying pans (*maqālā*), and braziers or censers (*majāmīr*) were made from the white stone (*ḥajar abyad*) of Tus, as was anything normally made of glass, like drinking cups (*aqdāḥ*) and jugs (*kīzān*) (al-Thaʿālibī, p. 118), and al-Muqaddasī also mentions a mine of serpentine in Tus and people skilled in carving it (al-Muqaddasī, pp. 319, 326). Given the use of these motifs on stone objects produced locally, and the high regard in which this stonework was evidently held, it is logical to see the high-tin-bronze objects found in illicit excavations at Nishapur as local products closely related to and, in part, at least, dependent upon the stone pieces.

The fourth indication that metalworkers were to be found in Nishapur is a story recorded by Ibn al-Athīr and quoted in an article by Boris Marshak ("Serebranīe sosudī," p. 156). Talking of a silver jug decorated with birds (Smirnov, no. 128) that bears the name al-Ḥusayn ibn ʿAlī and is Khurasani in style, Marshak notes the following story about a certain al-Ḥusayn ibn ʿAlī Mavarūdī. He was a man of complicated destiny, a parricide and a rebel. Having been in prison a long time, he was again allowed to be present at the court of the emir of Bukhara. During one of the meetings there, he reproached a

son of the deputy of Nishapur, who offered water to the emir in a simple jug. "Could your father not send from Nishapur better and more elegant jugs?" he asked. "My father is sending from Khurasan people like you" (i.e., rebels) was the reply. This embarrassed al-Ḥusayn and silenced him. Whether the silver jug decorated with birds actually belonged to this al-Ḥusayn is not proven, though the date of the episode, in the second decade of the tenth century, makes him a possible candidate. Equally, the story does not prove that jugs were made in Nishapur, though it does seem to make that suggestion plausible.

Finally, there is the evidence of two twelfth-century craftsmen who used the *nisba* "al-Nīshāpūrī" ("the man from Nishapur"). An inkwell in The Metropolitan Museum of Art is signed by ʿAbd al-Razzāq ibn Masʿūd al-Nīshāpūrī (Dimand, "Recent Additions," p. 139), who also made a bottle now in West Berlin (Pope, *Survey*, pl. 1311E). Another inkwell, which was in the Minassian collection in New York (Aga-Oğlu, "A Preliminary Note," figs. 3, 4), bears the name Nāṣir ibn Asʿad Nīshāpūrī. It is of course difficult to be sure what such a *nisba* actually means. Does it mean that the craftsman came from the town concerned, but was working elsewhere and wanted to be known by the name of his hometown? Or does it mean he was working in Nishapur and that this was his advertisement—his way of drawing future customers to the city and to his workshop? There is no way of being certain, but the latter possibility is by no means ruled out and indeed is supported by the inscription on the inlaid brass ewer in Tiflis dated 577/1181–82. That inscription not only states the name of the town where the object was made, Herat, but also gives the inlayer's name as Maḥmūd ibn Muḥammad al-Haravī. In this case, at least, *nisba* and place of manufacture coincide (Gyuzal'yan, p. 231).

On the basis of these fragments of information, it does seem likely that Nishapur in the pre-Mongol period included metalworkers among its craftsmen, and it may well be that a large number of the pieces excavated at the site are products of workshops operating in the medieval city.

The Nishapur Excavated Metalwork

The metalwork found in the Nishapur excavations falls into four groups on the basis of the metals used: silver/gold, bronze, lead, and iron. The overlap between silver/gold and silvered and gilded bronze among the personal objects recovered means, however, that it is more convenient to consider personal objects of both types first and then the rest of the bronze finds separately. Among the personal objects are examples of amulets, appliqués, bells, bracelets, earrings, nose rings, finger rings, pendants, and pins, which, when considered together, give a reasonably comprehensive view of the type of metal adornments normally connected with a man's or woman's attire. Among the bronze objects are items connected with a household or business: bottles, dishes, ewers, incense burners, jars, inkwells, lamps, miniature vessels, pans, pestles, spoons, and weights; cosmetic items such as mirrors, cosmetic mortars, kohl sticks, toilet flasks, and tweezers; horse harness; scientific instruments, technical objects, and weapons, including a quadrant, a coin die, and a mace head; and fittings for architecture and furniture and other objects, such as plaques, hinges, finials, handles, hooks, keys, lids, stoppers, rings, and various supporting elements. Then comes a group of lead objects, including bowls, spindle whorls, and a pendant, and finally iron objects, such as adz- and shovel blades, arrowheads, sword- and dagger blades, and a virtually complete sword.

From this list it is evident that the Nishapur excavations offer information about certain types of objects that are not well known, since they rarely find their way onto the art market. Among the personal objects, for example, gold rings and bracelets can occasionally be bought, but bronze bells and pendants are extremely rare. So, too, with the household and business equipment—miniature vessels, spoons, and weights—or with cosmetic items, such as kohl sticks and tweezers. Equally rare are small bronze fittings, or lead spindle whorls, or iron adz- and shovel blades. This publication offers a first step in establishing the “underworld” of medieval Iranian metalwork—all the smaller or less-exotic metal objects that are overlooked by clandestine

excavators or considered commercially worthless. How important for the discovery of cultural patterns these objects are remains to be seen and will only be decided when other groups of metal objects like those from Siraf, Susa, Rayy, and Istakhr have been fully published. But their possible value may be gauged by the importance of the rather unimpressive-looking lamps discovered at Susa, Kish, Siraf, and Banbhore, mentioned elsewhere in this volume (p. 49), and from certain of the points mentioned below. Certainly, from now on, scholars and students will not be able to write about medieval Iranian metalwork simply from the point of view of silver and inlaid bronze and brass, as has been the temptation in the past, a temptation that has almost certainly led to misunderstandings and misplaced emphases in many areas.

In six areas, in fact, it seems that the Nishapur finds have opened up new vistas, and here perhaps lies their prime importance at this stage of our knowledge. In the first place, it is evident from a study of the Nishapur cosmetic items in conjunction with others in museums and from archaeological sites that there was a previously unnoticed eastward cultural movement during the first two centuries of Islam. This movement took Mediterranean forms of cosmetic objects into Iran, presumably along with the customs connected with those objects, and was probably due to the fashions established at the Abbasid court in Baghdad, although the details cannot be determined for certain (see pp. 37–40). In the second place, the Nishapur lamps provide a basis for a more general study, which suggests distinct classical influences, in ceramic and metal, on regional products in Iran. It also suggests the continued regional-ity of the industry—a division, that is, between the northeast on the one hand and the south and southwest on the other, a strong influence from Sogdianan culture in the northeast, and an unprecedented measure of standardization of form in the face of the taste for extensive inlaid decoration in the twelfth century (pp. 45, 48–49). In the third place, the belt fittings, horse harness, and the “Nishapur sword” itself indicate for the first time both the depth and the limitations of Altaic and Turkish taste on the metal products of medieval Iran—depth in that Altaic and Turkish designs occur consistently on these ob-

jects, limitations in that they are very rarely found on any others (pp. 28–30, 50–51, 56–57). Fourthly, those same objects show how widespread gilt bronze was as a substitute for precious metal. Fifthly, the two mirrors from Nishapur and the discovery at the site of an object that is almost certainly a mirror handle offer an opportunity for a discussion of the development of mirror styles in early Islamic Iran. From this it is possible to make some comments on the nature of mirrors in Iran prior to the rise of the relief-cast-bronze forms of about A.D. 1100. Two earlier types are suggested—an iron mirror type with a long handle attached to its rim and a bronze mirror form with an angular three-sided handle soldered to

its reverse side (pp. 33–37). Finally, numismatists will be delighted to learn of the discovery at Nishapur of a very rare type of object—a coin die (pp. 51–52).

It is clear that, although the Nishapur finds do not revolutionize our knowledge of early Islamic metalwork, they do throw important light on hitherto obscure subjects and occasionally produce unforeseen conclusions. One can only hope that other scholars perusing the pages of this catalogue will make additional, or, indeed, contradictory, observations that will illuminate the scene still further. Then the excavations and the preparation of this small volume will have been worth the work involved.

CHAPTER 1

Silver and Bronze Personal Objects

AMULET CASE

The most beautiful and sumptuous object from the Nishapur excavations is the small amulet case found in a well in Tepe Madraseh (no. 1). Its Koranic inscription indicates its use as a holder for rolled-up leaves of the Koran, and it is one of a large number of such objects known from early Islamic times to the present day. (For their use in this century see Lane, p. 575.) A relatively large number of early Islamic examples have survived. Two examples of cylindrical form similar to the Nishapur piece are a gold case from Rayy (RG 7432) and a gilt-bronze one from Susa, now in the Louvre. A hoard of small silver items found near Chimkent in Transoxiana in 1900 included— in fragmentary form, or complete— six amulet cases of six-faced form, two of flattened six-faced form, four rectangular ones, and a semi-circular one (Spitsin, pp. 250–51, 255). Another six-faced example is in the British Museum (no. 1960.8–1.1), and the British Museum also has an example of a three-faced case (no. 1964.2–12.2). The Nihavand hoard contains a rectangular example (Gray, pl. 32c), which is important in indicating that men as well as women wore such amulet cases.

Amulet cases of the types described above must derive from the cylindrical version with suspension loops known in pre-Islamic times. Examples are the gold case from Tall Mahuz in Mesopotamia, which may be Sasanian (Negro Ponzi, fig. 85, no. 36), and the cases found in Parthian contexts at Taxila (J. Marshall, II, p. 631, no. 84; III, pl. 191). It is not possible on the basis of present evidence to date the

Nishapur amulet case precisely, but the form of Kufic script on it points to the period between about A.D. 950 and 1050.

APPLIQUE

One object purchased in Nishapur, although it does not correspond to the styles found among the belt or harness fittings, is evidently designed to be applied or attached to some material or other (no. 2). It may well have been an ornamental button. It has a central boss and radiating arms and was apparently a widespread type of ornament in the medieval period, since other examples have been found at Samarra and Corinth (*Excavations at Samarra*, 1936–1939, II, pl. 140, no. 12; Davidson, nos. 2645–48). Its date remains uncertain.

BELLS

Bronze bells have been found at Rayy, Istakhr, Siraf, Banbhore, and Kalai-Bolo as well as at Nishapur (nos. 3–5), and they may be divided into two groups: those with rounded bodies and those with conical ones. The two groups differ not only in shape, but also in structure. The first type has a split opening or pierced hole in the lower body; the second type has a completely open base. Among the first type there is a variety of shapes, ranging from a pear shape to a flattened sphere, and, although most of the bells in the group are similar in design, one example from Rayy (RH 6020) is distinguished by the form of its lower body, created by triangular pieces

of metal bent inward. In this it is similar to an iron bell from Siraf (S.68/9, 4558). The lack of excavated Sasanian bronze bells makes it difficult to comment constructively on the Islamic forms, though the existence at Taxila of a number of bells with open bases and one bell with a slit opening (J. Marshall, II, pp. 598–99; III, pl. 176) indicates that both forms were known in the East in pre-Islamic times. The dating of the Nishapur bells, which are all round bodied, is uncertain.

BELT FITTINGS

In the pre-Islamic and early Islamic Near East there were a number of belt forms in use. Statues of the Parthian period show two distinct types. There was a leather or fabric belt that tied in a knot in the front (Ghirshman, *Iran*, fig. 91), and there was also a belt apparently made of linked metal plates (Ghirshman, *Iran*, figs. 100, 105, 110). This latter style seems to have continued during the Sasanian period; it is found, for example, at Taq-i Bustan on the figure of Shapur II (Fukai and Horiuchi, II, pl. 69) and is probably the basis of the jewel-studded belt found on the figure of the caliph at Khirbat al-Mafjar (Hamilton, *Khirbat al Mafjar*, p. 228, pl. 55). But at Taq-i Bustan another quite different belt form is found, one that is of particular significance. It appears on figures in the royal deer hunt and royal boar hunt and evidently consists of a leather belt with a tongued buckle and pendant straps with applied decorative plates (Fukai and Horiuchi, I, pls. 35, 36, 43, 57, 64–66, 90, 91). It is worn by both the king and his attendants, and the number of pendant straps appears to have been significant in terms of rank, the greatest number occurring on the figure of the king (Fukai and Horiuchi, I, pl. 64). The actual form of the decorative plates is difficult to ascertain, and, though round ones certainly occur, other forms may well have been used, too. The figure of the mounted king bears a sword hung by twin straps from such a belt.

This belt form and the twin-mounted sword have both been discussed by scholars, and the sword type is discussed elsewhere in this catalogue (see pp. 56–58). It is generally agreed that both the belt and the sword are of Altaic Turkish origin (Mavrodinov, pp. 177–200) and that they were spread across Asia

and Europe by migrating peoples such as the Huns and Avars. Complete sets of belt plates have been found in Avar graves, and reconstructions of the original belts give a good idea of the variety of design that was possible and indicate the occasional use of two belts (László, figs. 47, 60, 79, 80, pl. 59). From these survivals, and from the huge numbers of belt plates that have come to light in Europe and Asia, it is clear that the plates catalogued here are part of the Altaic-descended tradition. Confirmation, if needed, will appear in the discussion of individual forms found. Before entering upon such a discussion, however, two points should be noted: First, there are evidently sets of belt plates in Cairo and Jerusalem (Gray, pp. 75–76), details of which are unfortunately unavailable. When finally published they may add greatly to the picture delineated below. Secondly, almost all the Nishapur finds are of bronze. It might appear more appropriate to discuss them in terms of other bronze belt pieces only, but the fact that they are mostly gilt bronze suggests a close connection with styles in precious metal. The discussion that follows will therefore draw on examples in precious metal wherever relevant.

The surviving Islamic Persian belt pieces consist mainly of metal plates with hollow backs, which were usually fastened to the leather belt by a pair of lugs. Both cast and beaten examples occur—it is often difficult to tell which a particular piece is. Although many pieces are purely ornamental, some have particular functions and are as much items of equipment as ornaments. Thus, there are round and square double plates in which the decorative upper plate is attached to a plain lower plate by four corner pieces. There are two circular examples from the Nihavand hoard (Gray, pl. 32, center) and one from the Chimkent hoard (Spitsin, fig. 23, p. 253). Two square pieces were part of the Nihavand hoard (Gray, pl. 32, top center). The double plates were evidently designed to cover joints in the belt—the places where the pendant straps joined the main piece of leather. Then there are plates with rings attached to one end, as, for example, Nishapur pieces nos. 12 and 13. Some plates of this type are double and have a rivet hole in both the front and back plate. Two examples are in the Nihavand hoard (Gray, pl. 32, top left and right). They were

designed for the end of a pendant strap and would have held items of equipment needed by the wearer. There are also objects designed as sheaths to fit the end of a piece of leather, like a bronze plate from Siraf (S.69/70, 3167), which is probably a sheath for a pendant strap; a silver Chimkent piece (Spitsin, fig. 12, p. 252), which was probably designed to be fixed to the end of the strap that is pushed through the buckle; one of the Nishapur bronzes (no. 14); and one of the silver items (no. 35). Certain other pieces may have been used similarly, though the lack of precise published information makes this difficult to ascertain (Spitsin, fig. 5, p. 252).

The fittings mentioned have a functional as well as ornamental role. Many other surviving belt pieces, however, including most of those from Nishapur, are purely ornamental. Most are rectangular in form, though they vary in length, and one pointed end is common. On these various belt plates certain particular styles of decoration can be distinguished. The most obvious—and, incidentally, the rarest mode of decoration—is that which is Islamic in tone (for other examples see Darkevich, pls. 39, 41). There are three such belt plates from Nishapur (nos. 8–10). All three bear Kufic inscriptions that read *al-mulk lillāh* (“Sovereignty belongs to God”).

A second distinct style features beveled designs and is exemplified by nine plates in the Nihavand hoard (e.g., Gray, pl. 32, middle left or right). Related to these are designs that are superficially rounded, but probably owe their origin to the beveled style (Nishapur nos. 17–21, 28). This style, as Ettinghausen has shown, is of Central Asian origin (Ettinghausen, “Turkish Elements,” pp. 129–31) and therefore represents a different cultural tradition from the Islamic style just noted. The same is true of another distinct style, also noted by Ettinghausen (“Turkish Elements,” pp. 131–32), featuring linear arabesques of even width. This decoration appears on many pieces in the Nihavand hoard and in fragmentary form on some of the Chimkent belt pieces. Whereas the beveled style derives from metalwork or woodwork, the linear arabesque designs derive from appliqués of leather or felt, hence the even width, but both styles emphasize the Central Asian, and, more specifically, Altaic, origin of the culture of the men who brought the designs into

Iran. Among the Nishapur belt pieces, no. 35 seems to point in the same direction, its vegetal design having stems of unusually even width for the traditional Islamic arabesque and reminding one strongly of felt work from Central Asia.

A third style of Central Asian origin noted by Ettinghausen (“Turkish Elements,” p. 132) is also present among the Nishapur belt pieces. This is the bird or animal design in silhouette-like relief, which occurs on no. 32.

Most of the other Nishapur belt plates (nos. 6, 7, 11, 15, 16, 22–24, 30, 31, 33, and 34) display styles that are neither purely Islamic nor of obvious and immediate Altaic descent. Certain of these have designs that could probably be traced back to Pazyryk art forms. Thus, no. 7, if turned upside down, is apparently based on the horns design of Pazyryk saddle pendants (Rudenko, *Frozen Tombs*, pl. 94, F-I), but it has come a long way from that design. Two others (nos. 15, 16) have no known parallels in Central Asian or Islamic art, but are similar to a belt plate of the migration period found in Russia (Arne, *La Suède et l'Orient*, fig. 127), while no. 33 is of a form that occurs on the Kiskoros-Varosalatt belt (László, p. 163, fig. 47), also a migration-period find. For the rest there are no satisfactory parallel pieces. However, another group of Nishapur plates (nos. 25–28), like two in the State Hermitage Museum, Leningrad (Arne, *La Suède et l'Orient*, figs. 192, 193), are also of a type widely known from Russia to Scandinavia in migration-period finds (Arne, *La Suède et l'Orient*, figs. 194–204). These facts suggest that, while there was certainly direct Central Asian influence on Iranian belt-ornament styles, there were also more complex influences at work. The evidence available at present does not suffice to show the extent of other influences from cultures to the north of Iran or to trace the development of forms and motifs first adopted in the Sasanian period, but both sources of influence are probably important.

The lack of information on these points is relevant not only to the belt ornaments. The same linear arabesque designs of even width appear on many silver objects, including some ascribed to late eleventh-century western Iran (e.g., the rosewater sprinkler in the Freer Gallery [no. 50.5]). Since there

are no pieces with such designs that are definitely pre-Seljuq—as, indeed, there are no belt pieces—it is tempting to suggest that it was the Seljuq invasions that brought these designs from Central Asia into Iran. But this is probably a rather naïve assumption. Since the Central Asian belt form had been in use since late Sasanian times, it is quite likely that Pazyryk-type decoration had been in use, too, particularly since the beveled style is found very early in Islamic decoration, for example at Samarra. All that is lacking is evidence to support this supposition.

To summarize, this brief survey of belt-plate designs, including those from Nishapur, suggests that the major influence and source was the art of the nomadic peoples of Altaic origin. However, the possibility of more complex cultural influences from the north and of the continuing development of styles already in use along with the Central Asian belt form in late Sasanian times should also be noticed. The Islamic intrusion into the art form is noteworthy primarily because it took place on such a small scale.

Two other types of belt fittings occurred in Islamic Iran in addition to the plates already discussed. These are rings—to hold the free end of the leather belt strap (cf. those from the Nihavand belt)—and buckles. There were two distinct forms of buckles. The most common is the tongued type, of which Nishapur nos. 36 and 37 are examples. This is the form used throughout the world today. Within this group two main styles can be differentiated. In no. 37 the belt passes around a bar behind the tongue of the buckle and is then riveted to itself; in no. 36 the strap is riveted to a plate, which is attached to the rear of the buckle. Examples of the first style have been excavated at Istakhr, Rayy (RCH 513), and Siraf (S.68/9, 2980), and the buckle from the Nihavand belt is of this form. Examples of the second form have been excavated at Istakhr, Rayy (RG 8219), and Kalai-Bolo (Davidovich and Litvinski, fig. 58); a further example is published from the Samarkand area (Arne, *La Suède et l'Orient*, p. 150). Both types have their origin in pre-Islamic times, but the former was more popular in the classical world, and the latter flourished during the migration period in Asia and Europe (e.g., Arne, *La Suède et l'Orient*, figs. 151, 152, 248, 249, 251). It would probably be

unwise, however, to see any particular significance in their appearance in Islamic Iran; a similar mixture of types was found in the remains of Byzantine Corinth, but the small number of surviving Persian examples makes any statistical discussion impossible. Incidentally, the parallels among the Corinth finds include not only the plainer forms with bar attachment, like the bronze buckles from Nishapur and Siraf (Davidson, nos. 2202, 2203, pl. 114) and buckles with straightforward plates (Davidson, nos. 2185, 2186, pl. 114), but also the type with a plate made of a metal sheet folded around the buckle ring and then riveted onto either side of the leather strap (Davidson, nos. 2237–39, pl. 115). This technique was used to fashion a buckle excavated at Rayy (RGQ 2026).

Quite different is the buckle from Nishapur with an interlocking boss-and-circle mechanism (no. 38). Such a form is more primitive than the tongue type, in that the length of the belt cannot be adjusted at will and has to be preset. Since no record of any pre-Islamic examples of the type has come to light, it would seem to have been very rare. However, the principle was well known; it was used for clothes fasteners in the Roman Empire (Wild, figs. 1, 2), and its extension to belt buckles is therefore no surprise.

BRACELET

Only one small bracelet fragment occurs among the Nishapur finds (no. 39). This appears to be the only known Islamic example of a very common Achaemenid bracelet type with overlapping animal-head terminals (Amandry, pl. 14). More common bracelet types, which can be associated with early Islamic Iran, consist of an open circle with pointed terminals (examples from the Chimkent hoard [Spitsin, figs. 38, 39] and Baku area ["Sluchayniya nakhodki i priobr teniya," fig. 262 and p. 132]), a hinged open circle with pointed terminals (examples from the Chimkent hoard [Spitsin, fig. 65 and p. 253]), a hinged full circle with an elaborate clasp (examples from the Chimkent hoard [Spitsin, fig. 64] and Baku area ["Sluchayniya nakhodki i priobr teniya," fig. 263]), and bracelets of flat section made up of either a complete circle with a joint or of hinged curving plates (examples from the Chimkent hoard [Spitsin,

figs. 40, 66, and pp. 252–53]). Other forms that may well be Persian types are in museums—for example, a group of flat section with hinge and clasp (Rosen-Ayalon, figs. 1–4), a type of flat section of open circular form with a triangular boss (British Museum 1958. 10–13.2), a type of triangular section (Victoria and Albert Museum M.32–1957), and a type made up of sections of varying form (Freer Gallery of Art 50.21).

EARRINGS AND NOSE RINGS

In the catalogue for the exhibition *7000 Years of Iranian Art* (Washington, Smithsonian Institution, 1964), item no. 618 includes a “nose-ring composed of three small gold balls and a pearl that slides along its wire.” Unfortunately, the object is not illustrated, but it sounds as though it was very like Nishapur objects nos. 43 and 44. The history of nose rings has not yet been written, but they are known from biblical references in Genesis (24:47), Isaiah (3:21), and Ezekiel (16:12), suggesting that they were a common Semitic ornament. This might explain why in the Islamic world they appear as Arab adornments. They are used, for example, among the Bedouin of Arabia (Dickson, p. 156) and were common in the last century in Egypt (Lane, p. 576). The situation in early Islamic Iran is uncertain, but it would be no surprise if these two objects were in fact nose rings.

A little more is known of earrings, and particularly common in early Islamic times were those ornamented with gold or silver beads. A large number of beads and beaded earrings occur in the Chimkent hoard (Spitsin, fig. 57 and p. 249), and examples were found near Baku (“Sluchaynīya nakhodki i priobr teniya,” figs. 264, 265) and at Rayy (RG 8107). To this group belongs Nishapur earring no. 40. The set of six tiny gold spheres and the gold crescent from Nishapur (nos. 41, 42) are also probably part of a more widespread tradition. A set of five crescents attached to a plaited gold wire was found at Rayy (RE 2676). This ornamental ensemble must have come from an earring such as the one in West Berlin (*Museum für Islamische Kunst*, no. 159) that has three pendants, each consisting of plaited gold wire with four crescents and a star. Earrings with pendants such as these have their

origins in the classical world and Parthian Iraq, where they were common items of jewelry (F. H. Marshall, *Catalogue of the Jewellery*, pl. 51, nos. 2356, 2357; Pope, *Survey*, pl. 139A, B, H).

The general popularity of earrings with pendants in early Islamic times is shown by a group of conical or hemispherical pendants in the Chimkent hoard (Spitsin, figs. 3, 4, 6, 8, 18). Such pendants are found in a variety of forms in later Persian jewelry (*Jewelry from Persia*, nos. 137, 144–46, 151), in which each served as the central element of an earring, hanging from the suspension loop and providing the necessary hanging space for smaller items.

FINGER RINGS

Finger rings are relatively numerous on excavation sites, although, of course, they represent but a tiny number compared with those circulating in the medieval period. Three main types are found—one with a flat face, a type of oval form with a narrowing circular bezel, and a type with a flaring bezel. In addition, there are a variety of other forms that cannot be conveniently categorized at present.

The first group is not represented among the Nishapur finds, but is widespread. There are two silver examples from Rayy (RCH 1752, RG 7867) and one from Siraf (S.68/9, 502). Nine examples in bronze were excavated at Rayy (RCH 223; Rei 3561; RH 6443; RG 3413; RG 7782; RG 8551; CT 79; RF 3475; RG 8361); one was found at Shamshir Ghar in Afghanistan (Dupree, p. 264, fig. 90 f), and two were excavated at Shah Tepe (Arne, *Excavations*, p. 332, nos. 1, 2, pl. 81, fig. 671 a, b). The form also occurs at Istakhr.

The second group is represented at Nishapur by the two gold rings nos. 45 and 46 and by the two bronze rings nos. 47 and 48. Other examples in gold were found at Rayy (RG 8406, RG 2981, and RCH 3926); two examples in silver with niello inlay occur in the Chimkent hoard (Spitsin, fig. 61), and one in bronze was discovered at Shah Tepe (Arne, *Excavations*, p. 332, no. 3, pl. 81, fig. 671 c). These finds suggest that the oval form was particularly popular for rings of precious metal.

The third group is represented at Nishapur by nos. 49 through 54, which are all of silver, by four

silver examples from the Chimkent hoard (Spitsin, figs. 54, 59, 60, 62), and by two bronze rings, one from Rayy (Rei 6759) and the other from Siraf (S.68/9, 371). The form also occurs at Istakhr.

The other Nishapur examples are of varying form (nos. 55–59). The wide variety of forms found is confirmed by additional finds at Rayy, Siraf, Banbhore (Khan, fig. on p. 49), and Shahrstan (Negmatov and Khmelnitski, pl. 22). Little need be said about the origin of the flat-face group—such a form is too obvious and common to be attributable to a particular cultural source. Oval rings are a common classical type (F. H. Marshall, *Catalogue of the Finger Rings*, type 15, p. xli) and may well have been used in Sasanian Iran, though there is virtually no information about that at present. The flaring bezel form includes what appears to be a rather individual style of ring with a tall, flaring bezel and flat shoulder (e.g., Nishapur nos. 51 and 52 and the Siraf ring), evidently known both in the north and south of the country. Without knowledge of Sasanian forms it would be dangerous to assert that this was a particularly Islamic Persian form, but it is possible. None of the Nishapur rings can be dated.

PENDANTS

The three principal forms of pendant found at Nishapur—circular (nos. 60, 61), pear shaped (nos. 65, 66), and crescent shaped (nos. 62–64)—occur at other excavated sites of early Islamic date in Iran. A pair of circular bronze pendants was found at Rayy (RCH 1976), which also produced a crescent type virtually identical to no. 61 (RH 4299), as did excavations in Khwarizm (Field and Prostov, fig. 12). Pendants in the form of closed crescents also occur at Rayy (RCH 499, RG 8758, RG 7590, the last being in the Museum of Fine Arts, Boston), as do pear-shaped pieces (RG 7868, RE 3141). The boot-shaped pendant from Nishapur (no. 67) is unique. None of the pendants can be dated with certainty.

PINS

Complete pins with ornamental heads in the form

of birds, or parts of such pins (nos. 68–71), have been found at Istakhr and Rayy (RCH 749, RE 3312, RCH 559); a group said to have come from Qazvin is in the British Museum (1909.2–16.48–51, .53–.55, .58–.60). Two were found in Khwarizm (Field and Prostov, fig. 12), and one was found by Stein in Sistan (Stein, *Innermost Asia*, II, p. 942; III, pl. 116, Sar 04). Other ornamental heads also occur, and, like related objects from Hama (Riis, fig. 28, nos. 3–7), such pins were probably used for arranging clothing and hair. Such objects have a long history in Iran, simple garment pins appearing among the earliest bronze artifacts known, and a wide variety of decorated forms being produced as early as the late second and early first millennia B.C. These include conical-headed pins as well as examples with bird tops (Moorey, p. 174, pls. 43–45, 50), and an Islamic example with a conical head was found at Rayy (RCH 1407). Conical-headed pins also appear in Parthian contexts at Taxila (J. Marshall, II, p. 586, no. 230; III, pl. 173), and, in view of the existence of early Sasanian spatulas with ornamented tops (Egami et al., III, pls. 43.11, 46.3, 47.4), a continuing tradition in the production of such items seems highly likely. It is possible that Nishapur no. 69 is a finial from a larger object rather than a pinhead.

SEALS

At present there seem to be no parallels for these bronze stamps or seals from Nishapur (nos. 72–74). Other known seals are a group of three said to come from Qazvin and now in the British Museum (nos. 1909.2–16.54, .62, .63). Two of these latter are of a type that occurs at Hama and Corinth in medieval contexts (Riis, fig. 28, no. 18; Davidson, nos. 2678–83), but comparative material for the Nishapur pieces is lacking, as is any reliable way of dating them.

STYLUS

A pointed object from Qanat Tepe (no. 75) is of uncertain purpose, but may be a stylus.

CHAPTER 2

Bronze Objects

Cosmetic Objects

MIRRORS

No study of early Islamic mirrors has ever been published, and there seems to be considerable confusion in the identification and attribution of known examples. It therefore seems appropriate to use the two Nishapur mirrors (nos. 76, 77) as the basis for a wider-ranging discussion, particularly as the Nishapur excavations brought to light an object that may be of the utmost importance in providing information about some of the earliest mirror types in Islamic Iran.

Since most Islamic mirrors circulating on the art market are ascribed to Iran, it is worth noting those actually discovered there. First of all, there are three undecorated bronze mirrors from excavations: one from Susa (Louvre G.S. 386/MAO.S. 139), one from Siraf (S.72/3, 485), and one from Rayy (RCH 1580). The example from Siraf is made up of two sheets of metal, one of high-tin bronze, the other low-zinc brass (Allan, *Persian Metal Technology*, p. 145, no. 44); that from Susa is made up of three sheets of metal (unanalyzed) soldered together. These are evidently mirrors with one reflecting side and one dull side.

Then there are the two decorated Nishapur mirrors—no. 76 with its allover pattern of six-petaled rosettes, and no. 77 with its inner zone decorated with four running animals. The first comes from an unknown location on the site and is therefore even more difficult to date than most other Nishapur finds. Its decorative scheme, however, is found as the background ornament on a group of mirrors bearing faces surmounted by tricorn hats (e.g., Pope,

Survey, pl. 1302D; Grabar et al., pl. 282, no. 37). Since this type of hat is characteristic of royal dress in the Il-Khanid period in Iran (cf., for example, illustrations from the Demotte *Shah-nameh* in Pope, *Survey*, pls. 836–40), the mirrors in question are probably to be dated to the late thirteenth or fourteenth century. However, the pattern itself goes back to earlier times; it occurs in a four-petaled form, for example, on unglazed pottery from Lashkari Bazar (Gardin, pl. 7, no. 55) dating from the eleventh or twelfth century. The design on this mirror may therefore be an intermediate stage in the development and use of the pattern and datable to the twelfth or thirteenth century.

No. 77 is probably datable to the twelfth century, as are various other relief-cast mirrors of known Iranian provenance in public or private collections. A bronze mirror bought in Isfahan and now in Leipzig (Bräunlich, p. 148) has a central boss and a main decorative zone of two addorsed sphinxes bordered by a Kufic inscription of good wishes. Another mirror of the same design came from Ardabil (Barrett, pl. 5a), and a third example probably came from somewhere in Iran (d'Allemagne, IV, p. 184). Another example of this type found in Tirmid, on the Soviet bank of the Oxus, is also relevant (Melikian-Chirvani, *Le Bronze iranien*, p. 37). A twelfth- or early thirteenth-century dating is suggested by the inscriptions that adorn these sphinx mirrors (Bräunlich; Rice, "A Seljuq Mirror," p. 289). On the basis of the above, one can therefore say that in twelfth- and thirteenth-century Iran, in addition to plain disk

mirrors, bronze mirrors with central bosses were used and that at least three different styles of decoration were in vogue. One can further add that, in view of the known existence of a mirror industry in Iran in the tenth century (Ibn al-Faḳīh, pp. 205, 253–54), the enormous scale of the bronze industry in Iran in the twelfth and thirteenth centuries, and the wide range of its products, it is highly likely that the mirrors found in Iran were also produced there.

One proviso should be noted at this point, however. Although it is highly likely that mirrors decorated with addorsed sphinxes and a band of inscription around the edge were produced in Iran, it is likely, too, that metalworkers in other parts of the Islamic world were also producing them. For example, mirrors of this type were acquired in Anatolia (Istanbul, Tokat, and Urfa), in northern Mesopotamia or Syria (Khabur, Aleppo, or Damascus), also in lower Mesopotamia (Taq-i Kisra), and also in Cairo. Certain other mirror types, sometimes ascribed to Iran, may be excluded on iconographic grounds. For example, those with zodiacal signs (two formerly in the Harari collection [Pope, *Survey*, pl. 1301A, B]; one from the Öttingen-Wallerstein collection [Sarre and Martin, pl. 140]; and one in the Victoria and Albert Museum [M.91–1952]) are most likely north Syrian or Anatolian on the basis of the Öttingen-Wallerstein piece, which is Urtuqid. Northern Syria or Anatolia is probably also the source of mirrors with animals, birds, or human figures within roundels formed by an interlaced stem (Victoria and Albert Museum 1535–1903; British Museum 91.4–18.41 and 1922.8–12.122; Louvre unnumbered)—a style very like that on the Urtuqid zodiacal piece mentioned; two mirrors with a double-bodied, single-headed harpy (Detroit Institute of Arts [Aga-Oglu, “Note,” fig. 3]; West Berlin I 5135); a mirror with a heraldic-looking eagle (Victoria and Albert Museum 1536–1903); and a mirror with mounted falconer and dragons in the border (Rice, “A Seljuq Mirror,” figs. 5, 6, in the Topkapi Palace Museum, Istanbul [2/1792]). It also seems possible that two mirrors decorated with four running sphinxes have been wrongly attributed to Iran (British Museum 1963.7–18.1, unpublished; West Berlin I 2220, which came from Egypt according to Sarre [“Neuerwerbungen,” fig. 41], but is elsewhere

attributed to Iran [*Museum für Islamische Kunst*, no. 357]). Although little is known of Fatimid and Ayyubid bronzework, the deeply cut details on the bodies and limbs of the sphinxes and the turban-like headdresses they wear are difficult to parallel in Persian iconography, and an Egyptian origin seems probable. Other mirrors, previously ascribed to pre-Mongol Iran, are more probably of Il-Khanid date—for example, the mirror with huntsman and phoenixes, in the Louvre (Louvre 6020; Pope, *Survey*, pl. 1302B) and the mirror published by Rogers (pl. 6) as “?Iran eleventh-twelfth century.” This latter is further from the Chinese type than Rogers indicates, and the fishes and other sea creatures suggest—by comparison, for example, with the fishpond ornament on the Modena bowl (Baer, “‘Fish-Pond’ Ornament,” fig. 7)—that this might be a post-Mongol object.

A number of other mirrors of Islamic character have been found in countries or areas to the east or northeast of Iran and are likely to be objects of trade of Iranian origin. Into this category fall four mirrors decorated with addorsed sphinxes and Kufic inscriptions (Loubo-Lesnitchenko, p. 58; Bernshtam, fig. 69), two of which come from Minusinsk, the third from Naryn, and the fourth from Semirech’e. Other examples of the type are a mirror from Samarova with a central lobed boss decorated with six animals of the hunt within a Kufic inscription (Loubo-Lesnitchenko, fig. 48) and two mirrors with handles (Loubo-Lesnitchenko, fig. 47; Balashova), one from Starye Knysi and one from Kazakhstan, bearing different forms of hunting scenes within borders of Kufic inscription. The four sphinx mirrors are presumably of the same date (twelfth-thirteenth century) as the similar mirrors found in Iran. The other three mirrors are all to be dated to about A.D. 1100 or perhaps to the early twelfth century (cf. Smirnov, pls. 81, 82, no. 150 and the inscription on the minaret at Sangbast [Grohmann, *Arabische Paläographie*, II, fig. 128]). The sphinx mirrors merely emphasize the probability that Iran was producing mirrors of this design, and the example with animals of the hunt is almost certainly of the same general style as the example from Bazaar Tepe in Nishapur (no. 77), though it is interesting to observe the large lobed boss. The other two mirrors, however, add an im-

portant dimension to the discussion, for they are decorated with hunting scenes and have, or probably had, handles. The hunting scenes are firmly in the Persian tradition; the Kazakhstan mirror's lion hunt is somewhat more ancient in origin than the depiction of a hawker with cheetah on the other piece, but there is little reason to doubt that the latter piece is indeed Persian. The former is probably Transoxianian, as Balashova noted, rather than Persian proper; the details of the picture itself, the unusual content of the inscription, and the holes through the middle of the crescents, which in the Transoxianian style probably originally held inlay, all point to the lands beyond the Oxus, but the mirror's Persian inspiration is incontestable. Thus, these two mirrors strongly suggest the possibility that designs of a central hunting scene with an inscription-border were used to decorate Persian mirrors of the pre-Mongol period. Although one of these two mirrors is badly damaged, it seems likely that both originally had handles attached to the edge of the rim. The Starye Knysi example also indicates that handled mirrors were produced in Iran prior to the Mongol invasions.

Other mirrors can now be attributed to Iran on the basis of the similarity of their decoration to that on Iranian mirrors already discussed. For example, the form and general style of decoration on the Samarova mirror and another one like it in The Metropolitan Museum of Art (42.136) have much in common with two other groups of mirrors, both of which are decorated with lobed bosses and tall rims, and both of which bear two decorative zones, the major inner one consisting of animals of the hunt, the lesser outer one of an inscription. The first of these latter groups (e.g., Pope, *Survey*, pl. 1302A) is distinguished by the presence of two pairs of animals moving to the left against a scrolling stem, whereas the second (e.g., Krachkovskaya, fig. 2) has four different animals moving in the same direction. It would appear that the first group with the animal pairs is the earlier, for the second group has, among the animals, an ibex, which seems to be a mistake for the hare in the other groups, the horns replacing the hare's head and ears. There are also a number of other mirrors with animal decoration that are variants of the type with paired-animal decoration.

They are mainly characterized by differences in the inscriptions they bear or in their size, showing that different casts could be used to produce essentially the same style of mirror. There are also some mirrors with only one zone of decoration and four different animals in relief (e.g., Pope, *Survey*, pl. 1302C); these are probably Persian.

Finally, another mirror that can also be ascribed to Iran on stylistic grounds is the one in the Victoria and Albert Museum depicting a falconer (Pope, *Survey*, pl. 1301C). Here again the nature of the Kufic inscription and the scrolling stems suggest a twelfth-century date.

In view of the uncertain date of the three undecorated mirrors excavated, we are faced with an abundance of relief-cast decorated mirrors from A.D. 1100 onward and a dearth of examples from earlier Islamic times, and the question naturally arises as to the nature of the mirrors that predate 1100. I have suggested elsewhere that the sudden expansion of the practice of relief casting in the early twelfth century was due to the importing of Chinese mirrors and the Chinese manufacturing technique—green sand molding—about A.D. 1100 (Allan, *Persian Metal Technology*, p. 62); the designs and the use of central boss handles for mirrors must also date from this time. Certain surviving Persian mirrors of pre-Mongol date, however, have long handles or a design that incorporates a space for one—for example, the Kazakhstan mirror (Balashova) and the example with the falconer in the Victoria and Albert Museum (Pope, *Survey*, pl. 1301C), though the space in the latter cannot be functional, owing to the continuation of the tall rim, and must therefore be a legacy of the past. A handled mirror also appears in one of the pictures on the Blacas ewer made in Mosul in 629/1232 (Pope, *Survey*, pls. 1329, 30), suggesting that handled mirrors were a pre-Mongol Islamic fashion. On the basis of these few objects it seems possible that some mirrors in pre-twelfth-century Iran had handles attached to one side.

But the question of what has happened to such mirrors remains. Two alternatives present themselves: either mirrors were a rare commodity for some reason and never existed in large quantities, or they existed in larger quantities and have disap-

peared for a particular reason. The first alternative is unlikely, since mirrors have been known since antiquity and are not difficult to make—in a crude form, at least. The second alternative is at first sight less likely than the first, for it is difficult to imagine what circumstances could have led to the disappearance of a whole group of mirrors without destroying evidence of all mirrors. Here, however, it is important to recall the textual evidence of the mirror industry in Iran in pre-Mongol times. This evidence is based on Ibn al-Faqīh, who ascribes mirrors to Hamadan and Fars (Ibn al-Faqīh, pp. 205, 253–54), but, very significantly, does not say the mirrors were of bronze. On the contrary, in both cases he strongly implies that they were of iron. Iron of course rusts very quickly in the ground, and very few iron objects have been recovered from Iran. It is, therefore, quite conceivable that many iron mirrors were produced in pre-Mongol Iran of which no traces remain or could even be expected to remain today.

If one then conjectures that many iron—or, presumably, steel—mirrors were produced in pre-Mongol Iran, can one say anything about their form or designs? The only evidence inevitably comes from later objects, but certainly there is some evidence. The handled mirrors decorated with tricorn-hatted faces and a rosette-patterned ground, attributable to the Il-Khanid period, have already been mentioned, and the origin of that ground pattern has been discussed. These mirrors are striking in their uniformity and strongly suggest that they are based on a prototype. No such prototype has come to light in Minusinsk or in the nearer parts of Central Asia and Transoxiana, and, since the ground pattern is found in Nishapur and Lashkari Bazar, it is perfectly legitimate to suggest that the form itself comes from eastern Iran. This cannot be proved, but is supported by the fact that no bronze mirrors have come to light at the main Ghaznavid and Ghorid sites, which would suggest that manufacturers in these cities used iron. The fact that some of the Il-Khanid mirrors in question have a strikingly black quality, which appears to be due to the alloy itself rather than to corrosion, suggests that it may have been manufactured in imitation of steel. A second thread of evidence is found in a contemporary or slightly later product of Anatolia: a superb Seljuq Anatolian mir-

ror decorated with a falconer on horseback and a band of animals (Rice, “A Seljuq Mirror,” figs. 5, 6) has a handle that fits onto a plain triangular area near the edge of the mirror and is made of steel. Even if the details of some of the animals—both mythical and naturalistic—are clearly Seljuq Anatolian, the concepts of the mounted falconer and a surrounding band of animals are very much part of the Persian artistic heritage, and one is surely right to connect the triangular space into which this handle fits with the useless space on the bronze Persian mirror discussed above. In other words, this steel Anatolian object suggests itself as a continuation of a tradition already established in Iran, of handled mirrors of steel, a tradition that must go back at least to the tenth century to judge from external evidence.

For all the above evidence, however, one must not assume that there was no bronze mirror industry in Iran prior to the twelfth century. Bronze mirrors had, after all, served the needs of Greeks and Romans quite adequately, and it would be surprising if not one bronze mirror was made in Iran before A.D. 1100. One small object of gilt bronze from the excavations at Nishapur (no. 78) is of the utmost significance, for it is the only surviving Islamic example of a type of mirror handle known in Iran in pre-Islamic times. In Luristan and Scythian south Russia in much earlier times mirrors were given rather square loop handles, which developed animal forms (Portratz, pls. 33, 34; Minns, pp. 65–66). Such mirrors appear with rather more elaborate handles, which were lengthened and given animal forms at each corner in the Parthio-Sasanian period (Malleret, pl. 1; Ghirshman, *Persia*, fig. 100, which Moorey has verbally suggested to me is much later than the date given by Ghirshman). It is a rather imaginative stylized form of such a handle that occurs among the Nishapur finds, giving extremely valuable testimony to the continuation of an ancient mirror form in Islamic Iran. What is more, widespread use of this form of mirror, which would presumably have had very little decoration on it owing to the position of the handle, would also explain the lack of surviving examples. The mirror itself could have been of relatively thin bronze, and a handle soldered to the back would have easily come off

with hard treatment or corrosion. Then, after a period of time in the ground, the object would have become an unrecognizable disk of corroded bronze that no dealer would consider trying to sell. The handle, too, would have been relatively easily broken or badly corroded, leaving too little of substance to attract anyone but the archaeologist.

It has become clear from this discussion that, although almost all the surviving mirrors from early Islamic Iran are cast bronze with relief decoration and central bosses and datable to the twelfth and thirteenth centuries, there were other earlier Islamic or contemporary forms. These were either of iron, in which case such a mirror probably had a long handle attached to its rim, or of bronze, in which case such a mirror had an angular three-sided handle soldered to the reverse side. There is no way of telling when the iron style was introduced, but it is probable that the bronze style, a continuation of a pre-Islamic tradition, was in vogue throughout early Islamic times.

COSMETIC MORTARS

Objects with a hemispherical body, flat, everted rim, horizontal handle and side flanges, and long, horizontal spout have in the past received a variety of names. They have sometimes been called lamps, but the spout is the wrong length and shape to hold a wick, and this use can be discounted. They have sometimes been called baby feeders, e.g., by D. B. Whitehouse, who found them being sold in the Bushehr bazaar under that name. While they might occasionally have been used for this purpose in early Islamic times, it seems highly unlikely that that should have been their primary function. Until this century babies have always been breast fed, either by their own mothers or by wet nurses, and everyday objects such as spoons would have been much more handy than such elaborate bronze objects for feeding special medicines to children. Another possible use is indicated by two illustrations in manuscripts of Abū'l-Qāsim al-Zahrāwī's book on surgery and instruments, dated 670/1271–72 and 870/1465–66 (al-Zahrāwī, pp. 261–62, fig. 64), from which it appears that objects of approximately this

form were used as eye- or nosedroppers. The need for such objects, however, would have been small, and one would certainly not expect to find the great number of these objects that has come to light on sites all over Iran. Following Melikian-Chirvani (*Times Literary Supplement*, April 30, 1976, p. 70), it seems preferable to call them cosmetic mortars. This identification seems reasonably logical—Islamic cosmetic bottles have narrow necks, and the long spout would therefore act well as the filling agent; the hemispherical body would be an excellent receptacle for mixing small quantities of material for eye makeup and other purposes; the flanges and handle would help steady the object as the substance was poured into a bottle; the large number of surviving objects would be easily explained, since the use of makeup has always been widespread in the Islamic world, as much among the poor as among the rich. Furthermore, surface testing of a Siraf example showed that the corrosion products were antimony rich. This could best be explained by continual use of the object for kohl prior to its being buried, even though antimony-based compounds were not usual; it would certainly be unlikely if the object had been used all its life for any other purpose.

Cosmetic mortars have been found at a number of sites in Iran apart from Nishapur, including Siraf (S.69/70, 3197), Susa (Louvre MAO. S. 417), Tal-i Zuhak (British Museum Zoh. 51 and 53; Stein, "An Archaeological Tour," pl. 29, nos. 47, 57), Rayy (RCH 1711), and Istakhr, and numerous other examples are to be found in museums and private collections. All are basically of the same shape, though they vary greatly in detail and decoration, and no regional groupings seem possible. For example, the low foot ring is found at Susa, Siraf, Tal-i Zuhak, Rayy, and Nishapur (nos. 81, 82); examples with three small boss feet occur at Siraf, Tal-i Zuhak, and Nishapur (no. 79), and dot-and-circle ornament occurs at Susa, Siraf, and Nishapur (nos. 80, 81). Although the dating of individual examples is usually difficult, it would appear that the form spans the pre-Mongol centuries.

Turning to the origin of the shape, certain parallels call for comment. Small, often hemispherical, spouted bowls in alabaster were used in ancient

Egypt at dates varying from the late third millennium to the fourth century B.C. (Bissing, nos. 18516, 18620, 18624, 18760, pl. 7), while in the first half of the sixth century A.D. stone mortars of rounded form with a short open spout and three rectangular projecting handles occur in tombs at Ballana (Emery and Kirwan, pl. 104, D and E; Farid, fig. 68-4). That they were more widespread than this one findspot would imply is indicated by a Hellenistic silver object with hemispherical body, flat base, loop handle, two side flanges, and very short spout, which is evidently based on such stone mortars (Schreiber, p. 333, figs. 69, 70; Bissing, no. 18754, pl. B). In the Islamic world objects of the same form as the Persian type occur frequently in Egypt. Thus, a lidded example was found in probably eleventh- or twelfth-century levels at Fustat (Scanlon, p. 97, fig. 11); other probably Islamic examples are in the Coptic collection in Cairo (Strzygowski, nos. 9150-52). Another vessel, from Madina Habu, near Luxor, is in the British Museum (Dalton, p. 104, no. 527, pl. 27), and yet others from Egypt are in Berlin (O. Wulff, I, pl. 53, nos. 1057, 1058, 1060, 1061). Given the existence of similar if not identical forms in pre-Islamic times in Egypt and the Hellenistic world, and the enormous number of examples associated with Islamic Egypt, it is tempting to suggest that a continuous chain of development in classical and early Islamic Egypt led to the establishment of the form and provided the source for the Iranian style. There are not enough surviving objects to prove this suggestion conclusively, but there are two important indicators that it may well be correct. The first is the small triangular flange that occurs on either side of the spout at the point where it joins the body on virtually every example. Such a style, which is also found on cauldrons, is based on stone-carving techniques, indicating that stone objects are to be expected somewhere in the ancestry of the mortars. The second is the form of a Persian cosmetic mortar in the Victoria and Albert Museum (1533-1903). With a handle in the form of a flat human head and flanges in the form of wings, it is quite un-Persian and should be compared to the shape of the toilet dishes discussed below (pp. 39-40), whose origin is Egyptian. This, therefore, indicates a definite link with Egypt, and thus further

reinforces the suggestion that the mortars in general are of Egyptian origin and that the form was imported into Iran in early Islamic times.

KOHL STICKS

Kohl sticks have been found in some numbers both at Rayy and Siraf as well as at Nishapur (nos. 83, 84) and take two main forms. One is undecorated; the other has a decorated center, the motifs usually combining square, oval, and angular shapes. Bronze kohl sticks have been known in Iran since the third or fourth century B.C., when they were probably introduced by the Greeks (J. Marshall, II, p. 585), and a wide variety of forms, often combining kohl stick with toothpick or ear cleaner, were found in the Parthian levels of the Taxila excavations. The neck of one example is decorated in a style very like the centers of the decorated Islamic sticks (J. Marshall, III, pl. 173, no. 221), but otherwise none bear a particularly close resemblance to the Islamic versions. Virtually nothing is known of Sasanian kohl sticks, and it is therefore hazardous to propose theories about the origin of the Islamic form. It is noticeable, however, that both the decorated and undecorated types were common throughout the Islamic world in the early Islamic period. They occur, for example, at Fustat (Ashmolean Museum 1974.53 from the 1972 excavations at Fustat), at Hama (Riis, fig. 24), and at Samarra (*Excavations at Samarra, 1936-1939*, II, pl. 142), and, if Petrie is right in ascribing examples of these forms to the Roman period (Petrie, p. 28, nos. 45-50, pl. 23), it may be that they are in fact based on Mediterranean and not pre-Islamic Persian forms.

TOILET FLASKS

None of the three Nishapur toilet flasks (nos. 85-87) fits into the two commonest categories of these objects. These are flasks with square, tall bodies and three short, angular legs and flasks of zoomorphic form. The first type is exemplified by a piece from Iran in the Victoria and Albert Museum (528-76) and two objects like it in West Berlin (I 2256, I 3651). An example of the second type is in Cairo (Pope, *Survey*, pl. 1312B). The first form is based on

a classic style of Islamic glass flask of which numerous examples have survived (Lamm, I, pp. 163–64; II, pls. 59, 61, 62). The center of this particular glass industry was Egypt, from which most of the pieces have come, and, although occasional examples have been found in Iraq or Iran, Lamm suggests that they were not made locally. The glass flasks are usually dated to the ninth and tenth centuries. Thus, it would seem that bronze flasks of this type were manufactured by Persian bronze casters in imitation of an imported Egyptian glass form.

Superficially, the Nishapur flasks are rather different from these, but both the conical and pear-shaped forms have parallels in glass, and both probably derive from glass origins. Here again, Egypt seems to have been the main producer of such glass objects (Lamm, II, pls. 2, 3). Another flask of pear-shaped form, bearing the name Muḥammad ibn Irānshāh, is in Cairo (Pope, *Survey*, fig. 842). From the dating attributed to the layers excavated at South Horn, flask no. 85 should be a twelfth- or thirteenth-century product. No. 87 may be of similar date. A flask almost identical to no. 85 is in the State Hermitage Museum, Leningrad (no. Up 1496). It is 7.3 centimeters long and 2.8 centimeters in diameter and has eight vertical ribs. It is unpublished.

TWEEZERS

Tweezers were widely used in the ancient Near East and in the Roman world and were traditionally made by bending a single piece of copper or bronze into a suitable shape (Comstock and Vermeule, nos. 626–28; Babelon and Blanchet, no. 1630). Iron tweezers of straightforward design occur at Taxila in first- and fifth-century contexts (J. Marshall, III, pl. 167, nos. 133, 134), and Nishapur tweezers no. 88 show the continued use of the simple bronze style in Islamic Iran. A more ornate and carefully manufactured form also occurs, however, and, in view of the fact that an example was found at Nishapur (no. 89) and one at Siraf, it, too, must have been widely used. Its distinguishing characteristic is an adjustable sliding piece that enables the opening distance of the tweezers to be preset, which suggests the use of a very springy metal. However, an analysis of the Siraf tweezers indicates, surpris-

ingly, that the alloy in this instance has a large amount of lead in it (Allan, *Persian Metal Technology*, p. 145, no. 49). Incidentally, the Siraf tweezers are datable to the early ninth century. There appears to be no precedent for this form in Iran, but adjustable tweezers were known in the classical world (Babelon and Blanchet, no. 1627). Such tweezers have a sliding piece that fits around both arms, rather than working within them, but the purpose and principle are much the same, and it is therefore interesting to learn from G. T. Scanlon that a pair of tweezers of the same form as the Persian piece has been found in the excavations at Fustat (no. 72.11.59, unpublished).

CONCLUSION

A few more comments on cosmetic equipment in general are called for in the light of the Nishapur finds and the parallels cited. The cosmetic mortars and toilet flasks seem to have definite links with Egypt in their form, and a possible Egyptian connection has also been noted in the case of kohl sticks. Now a similar link with Egypt or the Mediterranean can be argued for two other groups of cosmetic objects not represented at Nishapur—spatulas and toilet dishes. It is noticeable that spatulas found at Rayy, Susa, and Siraf tend to have unornamented tops and are therefore different from those found in Parthian contexts at Taxila (J. Marshall, III, pl. 177, nos. 361, 364, 365) and in the early Sasanian graves in Daylam (Egami et al., III, pls. 43.11, 46.3, 47.4), but similar to those used in Roman Egypt (Petrie, pl. 23). There are also important links in bowl and blade shape between the Persian Islamic pieces and those of Egypt.

As for toilet dishes, the case for an Egyptian origin is more convincing. The two published examples, one of which was acquired in Iran (*Das Tier in der Kunst Irans*, no. 136; Fehérvári, no. 107), together with another unpublished example from Ghubayra (Fehérvári, p. 87), demonstrate what in Persian terms is an extremely unusual concept of the use of animal or bird forms. Far from using the hollow possibilities of a naturalistic three-dimensional animal or bird form, the manufacturer has visualized the bird as two dimensional and has then hollowed

out that flat body to provide a central receptacle area. Not only is such a concept of form foreign to Islamic Iran, it is also foreign to pre-Islamic Persian culture, in which rhytons, animal handles, and figurines all point to a tradition of animals in the round and in which, moreover, toilet dishes were traditionally decorated with figures standing out from the background in high relief (J. Marshall, III, pls. 144–46). To find a source for this very un-Persian concept of form, one must look westward once more to the products of pre-Islamic and Islamic Egypt. Under Dynasty 18, toilet dishes in the form of gazelles with the body hollowed out were used (Petrie, pl. 34, nos. 18, 20), and, although classical forms were introduced in the Roman period, this concept of a hollowed-out animal form continued. Witness two fishes of this design (Petrie, pl. 34, nos. 33, 34), one having an Arabic inscription indicating its use if not manufacture in the Islamic period. A Dynasty 18 ivory dish in the form of a hollowed-out duck also has later parallels—for example, in an ivory dish in the form of a hollowed-out bird holding a worm in its beak, which was excavated at Fustat and is of pre-Tulunid but Islamic date (Scanlon, p. 104, fig. 14). It is this continuing Egyptian tradition that must have been the inspiration for the two Persian bronze dishes under discussion.

If these conclusions are correct, there seems to be previously unnoticed evidence of an eastward cultural movement in early Islamic times, a movement that took Egyptian forms of cosmetic objects in glass and stone, and probably metal too, into the Middle East, and thereby gave an extra dimension to the Iranian metalworking industry of the day. It was presumably a movement that took place as a result of the political unity of the Near and Middle East in early Islamic times and the luxurious customs that established themselves around the Abbasids in Iraq from A.D. 750 onward. It must also have been due to the traditional superiority and sophistication of Egyptian and Roman toilet and cosmetic customs—customs that the rulers of Islam and their families were evidently delighted to adopt and propagate.

Household Objects

BOTTLES

Two particular bronze bottle forms may be associated with early Islamic Iran. The more common type has an ovoid or spherical body, a foot of variable height, a waisted neck, and a mouth decorated with small bosses. The bodies of these objects are often decorated with two- or three-tiered ovoid bosses. Many examples have come to light (e.g., Mortimer Rice and Rowland, pls. 181, 182; Stein, “An Archaeological Tour,” pl. 29, no. 34; *Museum für Islamische Kunst*, nos. 172, 177, 223; Marchal, fig. 9; Kondrat’eva, pl. 3, no. 3; Scerrato, “Oggetti metallici,” I, fig. 16; Melikian-Chirvani, *Le Bronzes iraniens*, pp. 24–25), and, although a certain number of these have been found in the eastern provinces, and in particular in Ghazna, finds in Rayy and Fars suggest that the form was widespread. In origin this style of bottle appears to go back to the common Sasanian silver bottle style (e.g., Orbeli and Trever, pls. 39–41, 44, 45), on which bosses often occur as important decorative elements. The Islamic bronze examples are difficult to date accurately on account of the lack of decoration or the limitation of decoration to bosses, but a dating in the tenth or eleventh century seems likely (Allan, “Silver,” p. 9).

The second type of bronze bottle found in early Islamic Iran is illustrated by the two Nishapur pieces (nos. 90, 91). The origin of this form is to be sought in eastern Islamic glass, where such a bottle style was relatively common. Thus, Lamm (pl. 12, no. 13; pl. 58, nos. 12, 13) illustrates three glass bottles of this form, one of which was acquired in Teheran, one in Kirmanshah, and one in Baghdad. Other examples of unknown provenance are in the British Museum (Pinder-Wilson, pl. 16, pp. 36–37). Not only is the form derived from glass, but so, too, are certain aspects of the decoration. Thus, the faceting on no. 90 is copied from the faceting on cut-glass objects, and the projecting flange on no. 91 is based on the trailed decoration so common on glass bottles of rosewater-sprinkler form and may be compared to the flanges found on silver bottles (e.g., Allan, “Silver,” figs. 64–67). The Nishapur bottles

are clearly precursors of a more elaborate form made in the twelfth and early thirteenth centuries (Pope, *Survey*, pls. 1311B, E), the lobed body of which is related to the Khurasan metal-beating tradition of that period. The dating of the Nishapur pieces is problematic. Qanat Tepe, where no. 90 was found, seems to have been at its most prosperous in the ninth and tenth centuries (Wilkinson, *Nishapur*, pp. xxxii-iii), and this dating would be appropriate to the paneling on the object, which relates it to a group of ninth-to-twelfth-century ewers, in which the later pieces are more decorative. A closer dating for either bottle is not possible at present.

The lid of no. 90 seems to have been found with the bottle itself, and, since it fits perfectly, it must be either the original lid or an early replacement. Its cross-shaped opening suggests a Christian origin or function, and the finding of other apparently Christian objects at Nishapur would support this conjecture (Wilkinson, "Christian Remains").

Khurasan was evidently the center of production for this Iranian bottle type. Not only are the two earliest examples from Nishapur, but one of the twelfth-to-thirteenth-century pieces is signed by a Nishapuri craftsman, 'Abd al-Razzāq al-Nīshāpūrī, and both the latter pieces and a related object (Pope, *Survey*, pl. 1277D) are decorated in the pre-Mongol Khurasani style. However, similar objects are also found in Egypt, where they are characterized by a more cylindrical body and a taller neck (e.g., O. Wulff, I, pl. 51, no. 1045; Strzygowski, pl. 30, no. 9095; Migeon, I, pl. 21, no. 63; Fehérvári, no. 22). The nature of the relationship of the Egyptian and Iranian pieces remains uncertain. An unpublished example in the British Museum indicates that the form continued to be manufactured in the post-Mongol period in Iran (British Museum 1964.6-15.1).

DISH

The small pentagonal, handled dish from Nishapur (no. 92) is unparalleled in metalwork or any other medium in early Islamic Iran, and its purpose and date remain obscure. The closest parallel in any other relevant culture is a type of leaf- or heart-shaped stone lamp found in second-to-fifth-century contexts at Taxila (J. Marshall, II, pp. 500-501; III, pl. 141). The Islamic dish, however, would not have

functioned at all well as a lamp, though its design—with corners slightly indented and rounded on the inside—may well be based on a stone prototype.

EWERS

Two forms of ewer were found at Nishapur. The commonest has a cylindrical body, a sloping shoulder and base, and a cylindrical neck with everted lip. The body is of sheet metal, but the handle is cast and is soldered or riveted onto the neck and body. A metal strip runs around the neck of the object and is then wound around the handle opposite. The part of the metal strip on the neck is often wide and lobed and occasionally decorated. Rings are attached to the metal strips on two of the ewers.

Apart from seven of the Nishapur examples catalogued here (nos. 93-99), this ewer form is known from three excavated at Maimana in Afghanistan (Scerrato, "Oggetti metallici," II, pp. 699-700, figs. 33-39), one excavated at Susa (de Mecquenem, fig. 7), and at least one found in Östergötland in Sweden (Oxenstierna, p. 89, pl. 38, top). The construction of the sheet-metal form is evident from one of the Maimana pieces (Scerrato, "Oggetti metallici," II, pp. 699-700, no. 11, figs. 33-36), where the castelated and simple soldered joints between base, body, and shoulder are clearly visible. With the neck made out of another sheet of metal, and the handle and the strip joining the neck to the handle made separately, six different pieces of metal are involved in the construction of such an object. The purpose of the metal strip is not clear, but it may have served to give extra strength to the handle and would also have been useful for the attachment of small drinking vessels or a lid, as suggested by the two extant rings.

Wilkinson dates the second of these ewers to the ninth century (Wilkinson, *Nishapur*, p. 302), though he does not give specific reasons for this. The decorative motifs used on the ornamental examples of the form are either too simple or too individual to allow an accurate dating, and the Maimana pieces, from their findspot, could be of virtually any date prior to the Mongol invasions. The Susan piece is not dated by its excavator either. (Two such ewers were sold in Paris in 1978 and were catalogued as Ghaznavid, eleventh-to-twelfth century [Drouot

Rive Gauche, November 16, 17, 1978, lots 281, 283]. Unfortunately, the reproductions in the published catalogue do not allow one to distinguish the powerful decorative motifs that appear to adorn the ewers.) A ninth-to-tenth-century date, however, seems likely from the fact that ewers of this type reached Sweden then, for it was during those two centuries that trade up the Volga and across Russia into Scandinavia was at its height. Oxenstierna (p. 89) claims that five of these ewers have so far been found in Sweden, three on the islands and two on the mainland, but, unfortunately, he gives no further information. His suggestion that they are Khwarizmiyan may not be far from the truth, though it is perhaps more likely that they are products of an important trading city, such as Nishapur itself. Though they give the impression of being cheap everyday objects, the fact that they traveled thousands of miles along the great trade routes of the migration period suggests that, if not intrinsically valuable, they must nevertheless have had a considerable functional value and that they were therefore the standard metal ewer form of the Samanid lands.

It is from this form of ewer that the famous beaten and inlaid brass ewer of twelfth- and early thirteenth-century Herat, or at least its silver prototype, must derive (see Allan, "Silver," pp. 13–15). The relationship is clearly seen in the simplest examples of the twelfth-to-thirteenth-century style—for example, the ewers from Ghazna (Mortimer Rice and Rowland, pls. 183, 184) and Kavat-Kala in Khwarizm (Tolstov, I, p. 158, fig. 7; IV, pp. 193–97, fig. 1), the latter datable from the context of its findspot to the early years of the thirteenth century. Apart from the lack of a metal strip between the neck and handle and the addition of a spout on the neck, the form is virtually the same.

The best-known metal object from the Nishapur excavations is undoubtedly the so-called Nishapur ewer (no. 100). This object belongs to a quite different tradition from the ewers just discussed. In form, with its pear-shaped body, high shoulder, and cylindrical neck, it is one of a group of cast-bronze ewers that has been discussed at length along with other ewer groups by Marshak ("Bronzoviy kuvshin iz Samarkanda"). At least eight other examples are known: in the Iraq Museum, Baghdad (Ḥamīd, figs.

1–4, pp. 164–67); The Metropolitan Museum of Art 32.66 (Scerrato, *Metalli islamici*, pl. 12); Kabul Museum 58.2.21 (Mortimer Rice and Rowland, pl. 175); State Hermitage Museum, Leningrad SA 12728 (Marshak, "Bronzoviy kuvshin iz Samarkanda," p. 73); Hermitage Museum (Marshak, "Bronzoviy kuvshin iz Samarkanda," fig. 8, right); Keir collection, no. 5 (Fehérvári, pl. 2c); Victoria and Albert Museum 758–1889 (unpublished); and Louvre A.A. 59/A.A. 176 (Marchal, fig. 10, p. 17, which shows only the body). Originally, this ewer form probably derived from a glass bottle shape, though its immediate inspiration was probably a classical or Sasanian form; in Islam it had a continuous, if at times disjointed, history from the ninth to the thirteenth century, the earliest extant example probably being the Baghdad piece. Marshak's very detailed study indicates that these ewers are part of an eastward-moving tradition—a bronzeworking style that flourished in Iraq in early Abbasid times and moved into Iran and its northeastern provinces as the caliphate gradually lost its ascendancy.

Given the broad range of dates for the form, the dating of the Nishapur ewer must be assessed on the basis of its decoration. Marshak ("Bronzoviy kuvshin iz Samarkanda," p. 88, n. 38) observes that almost all the motifs on the ewer have analogies in twelfth- and thirteenth-century Khurasani bronzes: the bands of interlace, the texts of good wishes in Neskhī and Kufic scripts, and animals of the hunt against a background of spirals of floral ornament. He suggests, however, that the larger scale of the hunting scene, the use of curved instead of rectangular shoots in the stem spirals, and the less geometrical style of background ornament should be taken as pointers to a slightly earlier date, say eleventh to twelfth century. Other features support this view: the form of the palmettes in the band on the lower body and the very original and dynamic concept and execution of the hunting scene, as well as the two styles of script, which differ markedly from those commonly employed on bronzes dating from around A.D. 1200. So too, according to verbal information from Wilkinson, does the findspot of the ewer, the upper part of the middle level of Tepe Madraseh. Marshak cites a bucket in the St. Louis City Museum (Grabar, no. 22) as similar.

Certain other features of the Nishapur ewer are worthy of note. The birds' heads on either side of the handle top recall Romano-Byzantine fashions; the lower end of the handle is decorated with a tripartite palmette found on an Abbasid ewer from Dagestan (Orbeli and Trever, pl. 78); the handle itself is ornamented with beads similar to those on the ninth-century Basra ewer (Marshak, "Bronzovyy kuvshin iz Samarkanda," fig. 3). Like the form of the vessel, these are all archaic features, and this suggests, as Marshak has pointed out ("Bronzovyy kuvshin iz Samarkanda," p. 85), that between the ninth century and about A.D. 1100 Iran was characterized at one level at least by a bronzeworking tradition in which decoration developed, but form remained unchanged. Marshak is of the opinion that this may be connected with the division of work between the bronze founder and the engraver; the casting technique, with its easy methods of mass production, perhaps allowed the caster to cease being an artist and to become a copyist.

Such an interpretation may well be correct and could have important implications. For example, one of the characteristics of northeastern Persian bronzes in the tenth and eleventh centuries would appear to be the variety of the cast forms used, especially in the production of incense burners (Allan, "Silver," figs. 6–13). This would point to an indigenous Samanid tradition of a creative type and the later introduction of a tradition from Iraqi and western Persian sources with markedly less ambitious ideas. Moreover, the standardization of form that characterizes cast bronzes of the twelfth and thirteenth centuries would then suggest that it was this external tradition that dictated the output of the Khurasani craftsmen. Such speculation will require more detailed examination in the future.

INCENSE BURNERS

From Nishapur come examples, one fragmentary and one complete, of two common types of Iranian incense burner (nos. 101, 102). The feline head and neck of no. 101 come from a zoomorphic form of which a good number of examples have been published (Dimand, "A Saljuk Incense Burner," figs. on pp. 151, 152; Pope, *Survey*, pls. 1297, 1304A, B;

Shepherd; Leth, p. 70; Fehérvári, nos. 112, 113). From complete pieces it is clear that the neck and head were cast as a single unit that was then attached to the body by a hinge, or, more commonly, by a bayonet lock—a T-shaped key that fits into a slot in the base of the neck when the neck is at right angles to its correct position. With the exception of the huge incense burner in The Metropolitan Museum of Art (Dimand, "A Saljuk Incense Burner," figs. on pp. 151, 152), these objects all bear decoration that points to a tenth- or eleventh-century date and a northeastern Persian provenance and are examples of the imaginative types of object produced by the bronze-casting industry under the Samanids.

The other incense burner (no. 102) was purchased in Nishapur and is an example of another common type—the dish-shaped form. This occurs with four minor variations. One style, to which the Nishapur piece belongs, has vertical sides and a flat rim; a second style has inward-sloping sides and a flat rim; a third has inward-sloping sides and a thickened rim; a fourth has concave, rounded sides.

There seems little doubt that the origin of the form in general is the Hellenistic incense-burner style, of which a large number of examples survive from pre-Islamic Iran or its neighboring lands. In the west, at Dura Europos, a bronze incense burner with a brazier-like square tray and a long handle was found (Rostovtseff et al., pl. 26); a bronze dish incense burner with a lion handle and a silver dish incense burner with an animal-tipped handle were found in Iran (Bahrami; *7000 Years of Iranian Art*, no. 502); among the finds at Taxila were a three-legged copper or bronze dish with a long ring handle dating from the Greek period, another such dish of Parthian date with a lion handle, a bronze lion handle, and another dish in iron (J. Marshall, II, pp. 595–96, nos. 320–22, p. 543, no. 36; III, pls. 176, 184, 163). Proof that the form was still known in early Islamic times comes from Ghazna, where a complete lion handle has been brought to light (Mortimer Rice and Rowland, pls. 202, 203), from Susa, where part of a handle of the same form appeared at Islamic levels (Louvre G.S. 103/c), and from Rayy and Istakhr, where handled dishes that were probably incense burners have been found. When handles ceased to be used for these objects is uncertain.

The Nishapur dish incense burner is virtually identical to one formerly in the Kelekian collection (Pope, *Survey*, pl. 1290B), and there seems little doubt that both pieces come from the same workshop. The very simple paired stems with large leaves that form the background to the confronted birds, combined with the spiraling stem in the center with its rounded leaf-projections, suggests that these two objects are to be dated to the same period as the Nishapur ewer—to the eleventh or early twelfth century.

JAR

One metal jar, purchased by the expedition in Nishapur, should be noted (no. 103). It may once have had a handle and served as a small jug; it is apparently undecorated. In form it is closer to the eleventh-to-twelfth-century ceramic styles at Nishapur than to the ninth-to-tenth-century ones (Wilkinson, *Nishapur*, pp. 304–305, 340–41, nos. 37, 40) and is presumably therefore to be dated to the later period.

INKWELLS

In antiquity and the Middle Ages, in both Europe and the Islamic world, there were two standard types of ink. The first had a soot base and was known in Arabic as *midād*; the second consisted of a mixture of gallnuts and vitriol and was called *ḥibr* (Theophilus, pp. 42–43; Levey, pp. 7–8, and p. 13, no. 53; Stapleton et al., p. 349, n. 2; al-Qazvīnī, I, p. 226). Detailed descriptions of each type of ink given by the Zirid prince Ibn Bādīs (1007–1061) in his book on writing (Levey, pp. 15–26) show that both types were used in Islam. The soot-based inks were made into cakes and then dissolved in water as required, like Chinese inks, while the tannin inks were generally made in liquid form, though Ibn Bādīs also mentions some “dry” recipes that would keep until needed. It was the employment of tannin inks in their permanently liquid state that necessitated the use of inkwells, as the Arabic name for inkwell, *miḥbara*, indicates, though a simple device called a *līq*—a piece of ink-soaked felt or wool placed inside the inkwell—prevented the liquid from sloping around. A *līq* also had the advantage of cleaning the pen each time it was dipped and holding the ink in a state of suspension, though it could not be

used with a brush (Levey, p. 8, p. 13, n. 55, and pp. 26–29).

The best-known metal inkwell form from early Islamic Iran is a cylinder with a flat lid domed in the center. Numerous examples, including one signed by a Nishapuri craftsman, survive (e.g., Pope, *Survey*, pl. 1311; Dimand, “Recent Additions,” p. 139, bottom). These appear to be derived from an earlier inkwell form represented by a bronze in the British Museum (1968.7–22.3), which has a slightly bulging cylindrical body with flaring rim and foot, and a lid with a deeply concave edge. Originally the lid was probably surmounted by a central dome. This inkwell was suspended by means of three cords that ran through three narrow bronze tubes set inside the vessel near its wall. Holes were pierced at the appropriate places on the lid. The Kufic-style lettering of an inscription on the inkwell in the name of a female scholar, ‘Ālima bint Ibrāhīm *munajjim*, suggests an eleventh-century date. (Another similar object published as an incense burner may also be an inkwell [Ettinghausen, “Some Comments,” pl. 13]).

Nothing is known about the form of bronze inkwells in Iran prior to the eleventh century, unless the two Nishapur objects catalogued here (nos. 104, 105) in some way fill the gap. A little is known about inkwells in other media; Ibn Bādīs’s text suggests that in his day in the Maghrib glass inkwells were standard, though their form probably varied (Levey, p. 22, especially comments on *qariūra zajāj*). In Iran a glass well was often set into a body of faience or some other material (Grohmann, *Arabische Paläographie*, I, p. 124; Smith, no. 457); alternatively, a small glass vial with a wide lip was set into a large glass holder with inturned rim (Whitehouse, pl. 12d). But many other forms may also have existed: after all, any small glass pot will serve as an inkwell. Surviving ceramic inkwells of the tenth and thirteenth centuries emphasize the diversity of forms (Wilkinson, *Nishapur*, p. 43, no. 49; Atil, no. 45). Given this fact, it seems perfectly reasonable to regard the tiny Nishapur bronze (no. 104) as an inkwell of unknown date, and so, too, the larger bronze with its historical inscription (no. 105). Baer (“An Islamic Inkwell,” p. 199) suggested that the latter piece was an inkwell, and the cylindrical form with splayed base would certainly link it to the earliest

cylindrical bronze inkwell hitherto known, noted above. If the 'Abdallāh Pārsī mentioned in the inscription is the man of that name who was *khaṭīb* of Bukhara in A.D. 1036 and is recorded as taking part in an embassy to the Ghaznavid court (Barthold, p. 299)—and the style of inscription and vegetal ornament are certainly not at odds with such an attribution—then this object may have been manufactured in Transoxiana in the second quarter of the eleventh century.

LAMPS

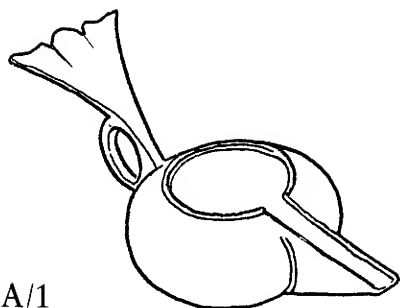
Early Islamic Iranian bronze lamps may be divided into five main groups: A) those with round bodies and spouts; B) those with open, pear-shaped bodies; C) those with dish-shaped bodies; D) those with bodies of zoomorphic form; and E) hanging lamps (see pp. 46–47). The most numerous and diverse group is A, in which nine particular styles may be singled out, within almost all of which there are variations in detail. Three of the Nishapur finds belong to group A/1 (nos. 106–108), one to group A/2 (no. 109), and one to group B (no. 110). Other examples of lamps in these groups are as follows: A/1 (open spout of triangular profile)—Brooklyn Museum 73.52.2, Louvre 6158, a lamp previously in E. Kühnel's collection (all unpublished); A/2 (partially covered spout of triangular profile)—Louvre 6159 (unpublished); A/3 (spade-shaped mouth)—a Shahrīstan find (Negmatov and Khmel'nitski, pl. 24 and p. 181), British Museum 1939.T–19.8 (unpublished), Ashkhabad Museum (Pugachenkova, pl. 121), ex d'Allemagne collection (d'Allemagne, II, p. 49, middle top), British Museum 1956.7–26.10 (unpublished), Louvre (Pope, *Survey*, pl. 1287A), Victoria and Albert Museum I. S. 131–1954 and M. 112–1909 (unpublished); A/4 (flat top and spade-shaped mouth)—West Berlin I 5360, I 2024, and I 6763 (unpublished), East Berlin I 2326 (unpublished), British Museum 1914.5–15.1 (Barrett, pl. 4a), Louvre 6164 (unpublished); A/5 (round-mouthed tubular spout)—Kabul Museum (Scerrato, "Oggetti metallici," II, p. 696, no. 8 and figs. 23, 24), Kabul Museum 58.2.37 (Mortimer Rice and Rowland, pl. 199), Kabul Museum 58.2.36 (Auboyer, pl. 114b); A/6 (pointed-mouthed tubular spout)—Louvre CL. 13561 (Melikian-Chirvani, *Le Bronze iranien*, pp. 14–15),

Louvre 7958 (unpublished), West Berlin I 4915 (unpublished). Published examples of A/7 (flat top and pinched spout) are as follows: Pope, *Survey*, pls. 1312A, C; Marchal, fig. 1; Baer, *Sphinxes and Harpies*, pl. 16, no. 27; Melikian-Chirvani, *Le Bronze iranien*, p. 30; Scerrato, "Oggetti metallici," I, pp. 106–107, no. 9 and fig. 18; Sarre and Martin, pl. 151, no. 3037; *Museum für Islamische Kunst*, no. 424; d'Allemagne, II, p. 49; "Excavations: Swat," pl. 56a. Numerous unpublished examples are also known. Examples of A/8 (spherical body and pinched spout) include West Berlin I 4316 and I 4317. Group A/9 (stem and dish base) is represented by Boston 35.909; group B by West Berlin I 3158 and I 3638.

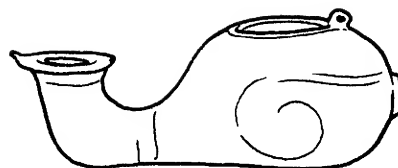
Comparison of the general form of groups A/1–6 with other metal lamps known in the Near and Middle East shows that the early Islamic types derive either from Greco-Roman lamps of an earlier era or from their Byzantine successors. Group A/5 provides the closest parallels to such classical pieces, the first Kabul example being very similar to a Roman lamp in the British Museum (Walters, pl. 8, no. 105) and to a Parthian lamp from Susa (Ettinghausen, "The Dance," pls. 13, 14 and p. 219). The other two Kabul pieces are very like an early Christian or Byzantine lamp in the British Museum (Walters, pl. 6, no. 104). Similarly, group A/3 has much in common with classical types, and A/1 and A/2 can also be explained as evolutions from the classical form, the spout having developed an ever larger mouth, until the mouth and central opening in the body joined up.

Comparison of the early Islamic lamp forms with their classical prototypes reveals certain characteristics relating to the way lamps were used in pre-Islamic and Islamic times. Many Roman lamps have a foot ring and were obviously made to stand on something. Many other examples have eyes attached to their bodies; these were designed to receive chain hooks to enable the lamps to be suspended. However, hanging lamps seem to have been unknown in Islamic Iran; at least, no suspension eyes have survived. Where eyes do occur they are in positions that are useless for suspending the object, and their purpose remains an enigma (e.g., the first example of the A/6 group).

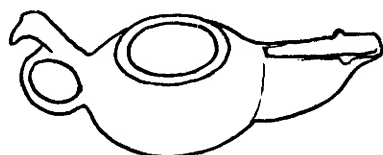
Featured on many lamps are small flanges or



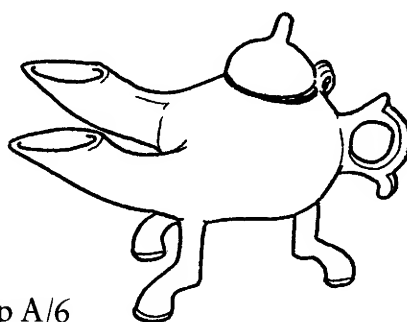
Lamp A/1



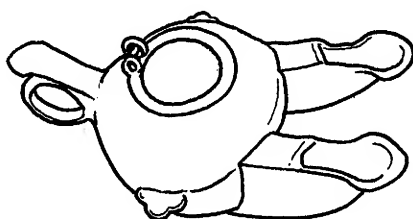
Lamp A/5



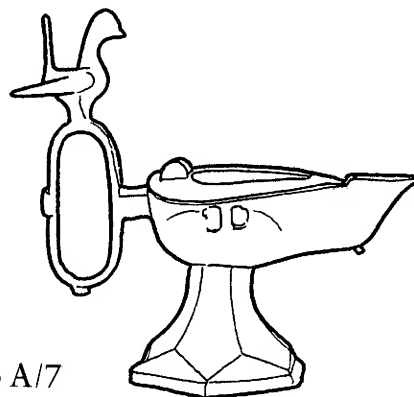
Lamp A/2



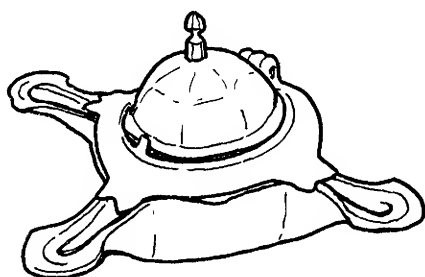
Lamp A/6



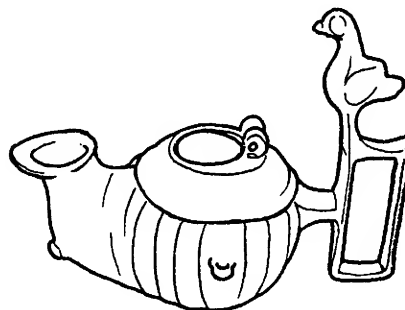
Lamp A/3



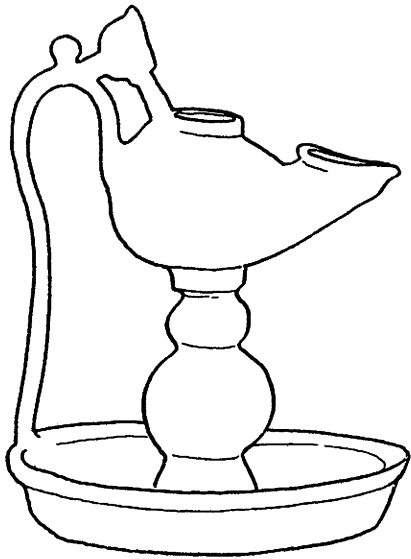
Lamp A/7



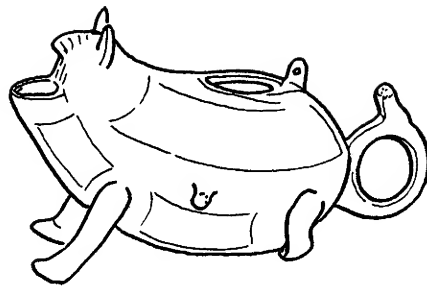
Lamp A/4



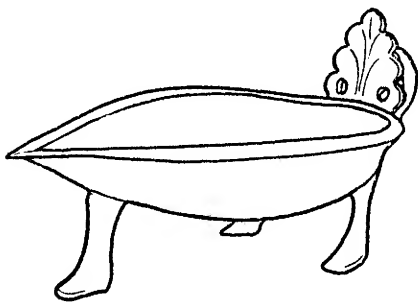
Lamp A/8



Lamp A/9



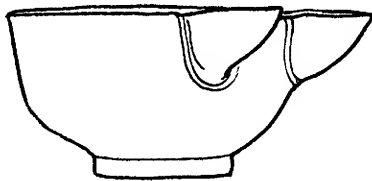
Lamp D



Lamp B



Lamp E



Lamp C

bosses that occur on either side of the body. Such additions are not normally found on Roman bronze lamps, but do occur on one type, which was suspended by means of a solid bronze bar with a hook at the top and a fork at the lower end, each prong of the fork fitting onto a projection on either side of the body of the lamp (Walters, pl. 4, no. 97). It is possible that the Persian flanges or bosses are derived from these projections, and the second and third pieces in group A/5 are tempting evidence to support this idea. Both these lamps have a decorative ridge running from boss to boss around the back of the body, and the curve of this ridge around the boss, especially on the third piece, strongly suggests that it is in imitation of a bronze-wire hanging mechanism. On the other hand, the flanges that more normally occur on the Persian pieces are merely a degenerate form of actual projections and probably indicate that if such a hanging mechanism was used in Islamic Iran, it went out of fashion very early.

From the known findspots of lamps in Group A (Nishapur, Sistan, Herat, Shahrstan, Dandanqan, Maimana, Ghazna, Swat), it is clear that the Nishapur finds belong to a tradition current in the eastern and northeastern provinces of Iran. Group A/7 consists of objects decorated in the manner typical of northeastern Iran in the twelfth and early thirteenth centuries; almost all the other lamps are undecorated or bear motifs current in this area in earlier centuries—for example, the knot patterns on two of the Kabul pieces. A pre-1100 dating for groups A/1–6 is also suggested by comparisons with ceramic lamps—parallels occur at Nishapur in ninth- and tenth-century ceramic pieces (Wilkinson, *Nishapur*, pp. 233–34, 245, nos. 14–16) and at Paikand near Bukhara and in Samarkand in the tenth century (Kondrat'eva, pl. 8; Tashkhodzhaev, fig. 9). Given that the origin of the spouted form is classical, it might be postulated that some of the undecorated lamps in the groups in question are very early Islamic or perhaps even late Sasanian. This can be discounted on two grounds. First, a number of lamps were found on particular sites (including Nishapur) where such a dating is highly unlikely. Secondly, the widespread use of a ring handle with a thumbpiece of varying size and elaboration seems to indicate a late eighth-century date at the very earliest for the

following reasons: the classical bronze lamp form had a long spout and a rounded body, but it very rarely had a ring handle; it was usually suspended by chains from small eyes, or else had a handle of tall, curved form ending in an animal head. Nor were such ring handles at all widely used for other classical objects: they appear in pairs at certain periods on cups, but remain very uncommon. The widespread use of such handles for lamps must therefore be dependent on another tradition. This other tradition seems to be that of Soghd, where ring handles with or without thumbpieces were widely used not only in metal, but also in pottery for a variety of vessels (Marshak, "Vliyanie torev-tiki," figs. 2–5; *Sogdiyskoe Serebro*, pls. 22, 22B, 25). In fact, pre-Islamic Soghd might aptly be described as a "ring-handle" culture. It was probably only with the conquest of Soghd by the Muslims and the dispersal of its inhabitants and craftsmen in the eighth century that such features would have begun to appear in the neighboring territories. Thus, lamps of types A/1–6 are probably to be dated between about A.D. 800 and 1100, though where any particular example, including the Nishapur pieces, falls within those three hundred years is impossible to say at present.

The Nishapur lamp in group B (no. 110) is open and shallow and paralleled by the two examples in West Berlin; these have more stylish rims, flanges, and handles, which give them considerable elegance and dignity. There seems little doubt that these objects are lamps, although Scerrato ("Oggetti metallici," II, p. 685) suggested, on the basis of a remark by D. S. Rice, that a slightly larger three-legged object of similar form found in Maimana was a *guttus*, or lamp filler. Evidence to support this suggestion is somewhat lacking, since the lamp filler of the classical world was of a quite different shape, with a round body and the spout at right angles to the handle.

The Nishapur lamps and the various groups discussed above have a further significance in Iranian terms, for they are of a quite different shape from the ceramic and metal lamps used in Khuzistan and on the gulf coast and from the lamps manufactured in Iraq and Syria. The latter follow a classical tradition, but not the tradition found in the northeast.

Thus, at Islamic Ramla in Syria, ceramic slipper lamps of standard classical form have been excavated (Rosen-Ayalon and Eitan, middle page, left); at Samarra in Iraq such slipper lamps are found alongside the open, round classical pottery type with a slight point and solid handle (*Excavations at Samarra, 1936–1939*, II, pls. 54, 60), and at Susa the rounded type is the dominant form.

Four bronze lamps illustrate the same point even more vividly. One from Siraf (S.68/9, 340), one from Kish in Iraq (Ashmolean Museum 1978.1414), one from Susa (G.S. 182, Louvre MAO S.135), and one from Banbhore (Khan, p. 49, middle top) are all of open, dish-shaped form (designated group C) with up to five, or possibly more, projecting spouts. A further example of the type is in West Berlin (I 2325). Because lower Iraq lacks metal and stone deposits, its culture has always emphasized ceramics, and one is therefore tempted to see in these objects a much stronger influence of ceramics than in the lamps of northeastern Iran. More important, these objects indicate a clear division in metalworking tradition between those parts of Iran bordering on Iraq and the gulf and the further reaches of the Iranian plateau.

That the northeast should have inherited a different classical lamp form from that adopted in Iraq is not fully explained by the dominance of ceramics in Iraq and the probable dominance of metals in the northeast. It may be, however, that, whereas pottery objects and styles could reach Mesopotamia from the late classical world without difficulty, the formidable presence of the Zagros Mountains and the distances of the roundabout routes to the lands nearer the Oxus meant that only the sturdiest objects (i.e., the bronze ones) arrived intact. The predominance of ceramic forms in Iraq and the existence of a limited variety of bronze types in the northeastern lands would thus have produced the different lamp forms that occurred in the Islamic period in the two areas.

MINIATURE VESSELS

The large number of miniature vessels found at Rayy and the three from the Nishapur excavations (nos. 111–113) testify to the popularity of this type of object. Exactly what such bowls and other min-

iature pieces were used for is, however, not known. Most were probably ornamental, but some may have been for containing small pieces of jewelry, just as today a woman's dressing table often bears one or two small ashtray-like objects. Some of the miniatures may have been for cosmetics, and there were probably other uses as well.

The scaling down of a shape in order to produce it in miniature, unless accompanied by a proportional scaling down of the thickness of the material, leads to a distortion of the true form, and this is generally the case with the miniature bronzes. Thus, the bowls from Falaki and Sabz Pushan (nos. 111, 113) are too clumsy to be convincingly compared with any full-size bowls; and, although the Village Tepe piece (no. 112) is more convincing in its form, no parallel is easily found for it, either.

PAN

Pans like no. 114 do not find their way onto the art market, and the only comparable object published appears to be a pan excavated in Khwarizm. It is made of sheet metal, has a circular bowl with a flat base and flaring sides, and a handle, and is 51.5 centimeters long (Tolstov, IV, pp. 194–97, fig. 2). Such objects must have been common enough, but, being of thin sheet metal and of no commercial or artistic value, they almost never survive.

PESTLE

Cast-bronze pestles have been found at four of the major excavation sites in Iran—Rayy, Susa, Istakhr, and Nishapur (no. 115)—and have also come to light at Ghazna and Kalai-Bolo (Farghana). Apart from the form of the handle, which varies from one pestle to another, the only feature that is not common to every pestle is a thick band or ridge protruding from the shaft slightly higher than halfway up its length. The purpose of this band appears to have been to prevent the hand of the person doing the work from hitting the edge of the mortar. The ridge only occurs on larger pestles—those of 18 centimeters or more in length—though even then it does not always occur, the Susan examples being notable exceptions. The Kalai-Bolo piece is said to be of the eleventh or twelfth century; none of the excavated pestles are datable.

SPOONS

A history of spoon forms in the pre-Islamic Near East or Mediterranean world has yet to be written, and it is therefore very difficult to be sure of the significance of those forms found in early Islamic Iran. In general, however, they seem to be of two types—those with long bowls and those with wide bowls. A spoon from Susa in the first group (Louvre MAO S.424) is distinguished by the form of its long oval bowl and high curved neck and clearly belongs to the late classical–early Christian spoon form called a *cochlear* (Sherlock, p. 374). The excavations at Corinth brought to light two main spoon forms in the Byzantine period: the *cochlear* form and a type with a long handle and relatively small bowl (Davidson, p. 198, whose nomenclature does not agree with Sherlock's). This latter type would appear to be very similar to a group of early Islamic spoons that includes three of the Nishapur finds (nos. 117–119) and one excavated at Takht-i-Sulaiman (Naumann et al., fig. 27), even though the bowl shape varies somewhat among Persian examples. It could therefore be argued that there is a link between Byzantine and early Islamic Persian spoon forms, both presumably being based on classical models. Spoon no. 116 from Nishapur is rather different, in that it has a broad, flat handle. Whitehouse dates a comparable spoon from Siraf (S.69/70, 5198) to the ninth century; the inscription on another similar example in West Berlin (I 4320) suggests a twelfth- or thirteenth-century date. There is little possibility of dating three of the Nishapur spoons, but the piece of ladle-like form from South Horn (no. 119) may be of twelfth- or thirteenth-century date on the basis of the general dating of the levels investigated by the expedition.

WEIGHTS

The six weights from Nishapur in The Metropolitan Museum of Art weigh as follows: no. 121, 5.698 grams; no. 120, 5.769 grams; no. 127, 14.116 grams; no. 126, 28.849 grams; no. 124, 28.866 grams; and no. 129, 90.519 grams. After 'Abd al-Malik's reform of the coinage in 79/698–99, the official weight of the silver dirham was established at 7/10 of a *mithqāl* (dinar). The *mithqāl* was equivalent to 4.25

grams. Weights of dirhams minted between 698–99 and the middle of the ninth century show a peak between 2.91 and 2.95 grams, which, given a loss of weight, is compatible with the official estimate of 2.97 grams (see *Dirham* in *Encyclopaedia of Islam*, New Edition). It is therefore likely that the Nishapur objects in question are weights representing two dirhams (nos. 120, 121), five dirhams (no. 127), ten dirhams (nos. 124, 126), and thirty dirhams (no. 129).

Horse Harness

Among the Nishapur finds is a group of objects (nos. 131–139) that are probably ornaments from leather horse harness. Although there is no absolute proof of their identity, it is unlikely that they are belt fittings, which is the obvious alternative. The earlier discussion of belt fittings has shown that there was a limited range of shapes used for such ornaments, and that there was also a measure of standardization that generally led to the production of a metal plaque with lugs protruding from its back and with low sides giving the impression of hollowness. Only in the rarest instances was a cut-out technique used. Compared to this, the ornaments under discussion here are quite different. They are solid-cast objects with a flat back and a rounded front; all utilize cut-out techniques as the predominant mode of decoration; all but nos. 138 and 139 bear small holes through which rivets were passed to fix them to another material.

The cut-out technique and the designs used call for particular comment. One of the most striking objects in the group, and also the simplest in conception, is no. 132, a silvered bronze plaque in the form of a pair of horns. The design occurs on saddle pendants from Pazyryk and is of Altaic origin. But so, too, are the style and conception, which are paralleled in numerous wood carvings from the same site (Rudenko, *Kul'tura naseleniya*, pls. 82–92; *Frozen Tombs*, pl. 95 F–I). The parallel extends not only to the idea of a form with space all around it, but also to the idea of the form being flat backed and solid with a rounded front. The same is true of nos. 131, 133, and 134. Seen in terms of these Pazyryk wood carvings, nos. 135–137 also become compre-

hensible, either as areas of one material bearing applied pieces of another symbolized by the empty spaces or as cut-out appliqué for a prepared ground. In both cases the decorative idea is based on characteristic Altaic techniques and traditions. Since the objects are not belt ornaments, and since they bear a very close relationship to Altaic culture, it seems logical to suggest that they are ornaments for horse harness, for Altaic culture was horse oriented, and it would have been through the use of these animals that descendants of the culture would have reached the Islamic world. What is more, because of the way fashion works, horse harness is more likely than personal ornament to retain traditional types of decoration, which is exactly what is seen in these ornaments.

Just how traditional horse-harness ornament could be is evident from surviving Ottoman trappings. In Karlsruhe there are, for example, seventeenth-century Ottoman horse ornaments that bear palmettes that must be descendants of the form represented by no. 134 (Petrash, pls. 18, 19).

Scientific Instruments, Technical Objects, and Weapons

QUADRANT

This quadrant (no. 140), which was purchased, not excavated, at Nishapur, is designed to give approximate readings of the time and the altitude of the sun. Along the arc is a scale of degrees numbered 5–10–5–20, etc., in *abjad*. Along the two radii are the names of the signs of the zodiac. Engraved across the quadrant are equidistant concentric arcs of the signs of the zodiac, and over these arcs are plotted lines for unequal hours—hours measured by dividing the day from sunrise to sunset into twelve equal parts, and the night from sunset to sunrise into twelve equal parts, the length of the hours during the day and night thus being of different length according to the time of year (except at the equinoxes). When the quadrant was in use, a plumb line with a bob and a sliding bead was suspended from the apex. The plumb line was stretched taut along whichever radius (i.e., zodiacal scale) included the sign of the zodiac in which the sun was known to

be on the day of use. The bead was then moved along the plumb line until it lay in a position in the sign roughly corresponding to the sun's declination. Thus, if the sun were known to be at 10° Leo, the bead would be moved until it was a third of the way along the designated area of Leo toward the next sign. Then the plumb line was allowed to hang freely and the quadrant was directed toward the sun, so that light falling through the pinhole in the foresight fell centrally on the backsight (both sights are on one of the radii). The position of the bead in relation to the hour lines then gave the time. No latitude is indicated on the quadrant.

The only other early Islamic Iranian quadrant known appears to be one now in a private collection in Kuwait (Brieux and Maddison). That example is similar to the Nishapur quadrant, but the arrangement of the scales is slightly different. It is signed by Sa'adū ibn 'Alī the muezzin.

COIN DIE

Medieval Islamic coin dies are extremely rare. According to Balog (pp. 196–97), only half a dozen are known, and the Nishapur example is thus of great interest. (For a die from Bust dated to the first two centuries of Islam, see Herbert, p. 45). Like the other surviving examples, no. 141 is made of bronze, and it is evidently the die of the obverse of a Timurid dirham. Comparative examples in the British Museum suggest that it dates from the reign of Shah Rukh (807–50/1405–47) or within a decade of his death (Lane-Poole, pl. II, no. 61, struck at Semnan 828/1425; and no. 67, struck at Astarabad 830/1427; pl. III, no. 109, struck at Herat in 852/1448; and no. 112, struck at Samarkand during the reign of Abū 'Sa'īd [855–73/1451–69]. A comparative dirham of Shah Rukh in the Ashmolean was minted at Soltaniyeh, and one found at Herat was minted during the governorship of Abū'l-Qāsim Barbar [851–61/1447–57]). The mint town of the latter coin is uncertain. Only three coins from the ninth century H. are known from the Nishapur mint, and the fact that the coin immediately preceding those is dated 752/1351 suggests that the mint was only put into operation for special issues and was generally non-functional around the time of Shah Rukh's reign (Zambaur, p. 259).

Balog (p. 196) has described how coin dies like this one were probably made. The coin legends, he suggests, were cut into a soft, plastic surface that was easy to work and, in case of error, easy to smooth out again. Lead is an obvious material for this purpose, and a pair of lead plaques in Cairo bearing legends of an Abū-Dulāfid dinar indicate that this metal was indeed used. From this negative lead matrix positive impressions were made on fine plastic clay. A single lead matrix would thus produce a great number of positive casts, and each cast would be fired in a kiln. The resulting heat-resistant molds were then used for casting bronze dies, such as the Nishapur example. The coin was struck either by placing the die held in a pair of pincers on the flan and then hitting it with a hammer, or by holding the die in a vice, placing the flan on top of it, and then hitting the flan.

MACE HEAD

The bronze fittings of the Nishapur sword are discussed elsewhere in this catalogue (pp. 56–57). There is only one other bronze weapon from Nishapur—a narrow octagonal mace head decorated with “Kufic” letters and palmettes (no. 142). It is similar to one in Cairo (Pope, *Survey*, pl. 1289B) and is probably to be dated to the eleventh or twelfth century on the basis of the decoration. Other early Islamic Iranian mace heads are known, including one with flanges and one of lion-head form (*The Arts of Islam*, no. 186, which is of iron, not bronze; Grabar, no. 55), and both the octagonal and lion-head forms are depicted on an overglaze-painted ceramic dish in the Freer Gallery of Art (Atil, no. 50). A rather different style of Transoxianian mace head should also be noted (Sarre, *Sammlung F. Sarre*, no. 11, fig. 3).

Fittings for Architecture, Furniture, and Other Objects

The various fittings from the Nishapur excavations fall into a number of groups. First of all, there are a variety of plaques, which probably come from wooden objects of some sort (nos. 143–150); then there are a hinge piece and a clamp, the former probably from a metal object, the latter from a wooden

one (nos. 151, 152). A third group consists of finials in the form of birds (nos. 153–156), a fourth of handles of a variety of forms (nos. 157–160). In addition, there is a single hook fragment (no. 161), a key (no. 162), a group of six lids (nos. 163–168), a stopper (no. 169), two rings (nos. 170, 171), a rod (no. 172), and various support fittings for objects (nos. 173–179).

Among the plaques, the most outstanding is no. 144, since it is of a relatively well-known type. Similar pieces have been found at Taxila in a Parthian context (J. Marshall, II, pp. 582–83; III, pl. 179) and at Samarra and Hama, the latter in a twelfth-to-fourteenth-century context (*Excavations at Samarra, 1936–1939*, II, pl. 141; Riis, fig. 6, nos. 5, 8), and an openwork rosette of rather similar form was found at Corinth (Davidson, no. 2643). The heart-shaped plaque (no. 146) may be compared to a piece of similar type from Siraf (S.69/70, 3196). The plaque in the form of an openwork palmette (no. 148) is attached to an upright similar to that found on a tall appliqué of unknown whereabouts (Pope, *Survey*, pl. 1278A); the closest parallels to the two plaques with standing figures (nos. 149, 150) seem to be a group of gilt bronzes in West Berlin (I 2029, 4323–26; Pope, *Survey*, p. 2481, fig. 810) and the figural plaques decorating the box dated 593/1197 in the Museum of Fine Arts, Boston (Pope, *Survey*, pl. 1303). It should be noted, however, that all the latter plaques are figures without backgrounds, whereas the two Nishapur examples were both probably rectangular plaques bearing figures in relief. Furthermore, plaque no. 150 is gilded on both sides and has a ridge with projecting ends down the right-hand side, suggesting that it swiveled in a socket and acted as a small door on a larger object.

The hinge piece (no. 151) was probably part of a metal object, since it has no rivet- or nail holes and must, therefore, have been soldered in position. A piece of somewhat similar form was found at Istakhr. The clamp (no. 152), which is a luxurious-looking item of gilt bronze, is similar in general form to the clamps on the two silver boxes formerly in the Harari collection (Pope, *Survey*, pl. 1352A, B). Its decoration suggests, however, that it is somewhat earlier than the Harari pieces, perhaps ninth or tenth century.

Bird-shaped finials (Nishapur nos. 153–156) are known from a variety of objects in Islamic Iran. They were used to adorn the covers of incense burners (e.g., Ghirshman, “Les Fouilles,” pl. 9, no. 5; Kühnel, fig. 98) and lids of various other sorts (e.g., Nishapur no. 168), as well as a wide variety of handles (e.g., a tall oval handle from Rayy—RE 8101; lamp handles—Fehérvári, nos. 95, 96); indeed, the remains of a handle of some sort are still attached to no. 156. Such finials also occur on pins (Nishapur no. 68). Once again, no dating is possible for the Nishapur examples, with the exception of the very ornate bird, no. 153. With its small disks of inlaid silver and the palmette design on its wings, it is perhaps to be dated to the ninth or tenth century.

Turning to handles, the first two examples (nos. 157, 158), both for horizontal use, are unparalleled on complete Iranian objects, but handles of similar form do occur on two Mesopotamian pieces—the Innsbruck enameled dish and an inlaid bronze basin (Sarre and Martin, pls. 156, 159). Two handles similar to no. 157 were probably found at Susa and are now in the Louvre; a further example of this form was found at Istakhr. The open, curved style of vertical handle (no. 159) is common on objects such as ewers (Nishapur nos. 93–99), and examples have come to light in Susa, Rayy (RG 8106, RF 3174, RE 3422), and Istakhr. What the pear-shaped flat handle (no. 160) belonged to is not clear.

The top part of a wall hook was also found at Nishapur (no. 161). It is similar to some nineteen hooks found at Susa and three found at Istakhr. The use of such wall hooks is attested by an illustration in the 595/1199 manuscript of the *Kitāb al-Diryāq*, in which small bags are depicted hanging from double pegs attached to some sort of strip molding fastened to the wall (*Trésors d'Orient*, no. 191). All the surviving pegs from Susa and Nishapur are single rather than double, but since none of them have rivet holes, they must have been soldered to a metal strip and then fixed to a wall and therefore closely correspond to the illustrated examples.

The Nishapur key (no. 162) is paralleled by a key found at Rayy (RH 5459) and another found at Istakhr. Two further examples were excavated at Samarra (*Excavations at Samarra, 1936–1939*, I, pls. 140, 141). Such push keys are designed for the type

of spring lock current throughout the medieval world, including Iran (see Tanavoli and Wertime, fig. 1).

All the lids from Nishapur are of domical form (nos. 163–168). The first two are undatable, but evidently come from similar objects. No. 165 could conceivably be the base of an object rather than its lid (cf. no. 179) and is probably to be dated to the eleventh or twelfth century, to judge from the form of the letters in the Kufic inscription and the background leaves. While the word *al-baraka* can be made out from the expedition photographs of the object and the rest of the inscription appears to express good wishes, there is unfortunately no record of the whole of it. Nos. 166 and 167 are similar to a lid from Rayy (RC 736) and another from Sarutara in Sistan (Stein, *Innermost Asia*, II, p. 942; III, pl. 116 Sar 02) and may be compared to the lid on a bronze lamp from Shahrstan (Negmatov and Khmel'nitski, pl. 24). The Nishapur pieces are presumably lids from such lamps, which would suggest a ninth- to eleventh-century dating. No. 168 appears to be unique. The stopper (no. 169) and the two rings (nos. 170, 171) are of unknown use and date; so, too, the rod with bone finials (no. 172), though it could be a spindle with two bone whorls.

Objects nos. 173–176 are support fittings for larger items. The first three pieces have a flat projection at the rear, which would have been soldered to the base of the object concerned, and the fourth probably had such a projection, too. Incense-burner dishes may well have had such legs; an unpublished example is in the Widmaier collection in Germany. No. 177 is a leg from an object such as a bronze lampstand base (e.g., Pope, *Survey*, pl. 1284A–C); similar legs have been found at Susa, Rayy, and Istakhr. The baluster leg (no. 178) is also of a type found on other sites such as Rayy and Susa. Silver examples are found on three incense burners from the Harari hoard (Allan, “Silver,” figs. 67, 68; and an unpublished piece), and the bronze legs presumably come from similar objects in baser metal.

Large domical forms of base (no. 179) are found on pear-shaped bronze incense burners (Grabar, no. 25, and British Museum 1968.12–24.2) and a pear-shaped ewer in the British Museum (1969.1–13.1)—objects ascribed to northeastern Iran of the tenth

and eleventh centuries. The same dating may be given to an unpublished decorated base of this type in the British Museum (1934.4–17.8). The Nishapur piece is undecorated, but its findspot confirms the likely provenance of the style, though it also suggests a slightly later dating. The nearest parallels to these bases, apart from those mentioned, are the splayed bases found on a group of ewers from Transoxiana (Ivanov, nos. 20–27), and it may well be that the larger domed style developed in Transoxiana during the tenth or eleventh century.

The long hexagonal shaft (no. 180) is most likely the shaft of a lampstand. Square, cylindrical, hexagonal, and spiraled shafts are known for such objects (e.g., Pope, *Survey*, pls. 1283A, 1284), and this piece is probably of tenth- or eleventh-century origin, to judge by the palmette decoration.

Unidentified Objects

The eight objects catalogued here are of uncertain use. No. 181 is clearly part of a vessel, but the original nature of the vessel is impossible to establish. The decoration suggests a tenth- or eleventh-century date. No. 182 looks as though it might have been part of a ring handle for an object, but no comparable piece has ever been published. No. 183 appears to be in the round and is therefore unlikely to have been an appliqué for a box or another item of

furniture, like the pieces mentioned under furniture fittings. No. 185 might come from a piece of furniture, but here again, there is no certainty. It was obviously part of a larger structure, and its cup form is misleading; in all likelihood a unit attached to it would have made the bowl of the cup hemispherical. No. 187 probably comes from a freestanding bird figure, since it is shaped like a bird's wing. It may be dated to the eleventh century on decorative grounds. There is no mechanism for attaching it, so it was presumably soldered in position. It is tempting to see the inlaid hand (no. 186) as evidence of the manufacture of human figures in bronze in the early Seljuq period. Whether no. 184 also comes from a three-dimensional figure is more doubtful, and no. 188 might be a pendant, an appliqué, or an ornament.

There is one parallel to no. 188: a handle of similar form, from the excavations at Qasr-i-abu Nasr in Fars (The Metropolitan Museum of Art acc. no. 36.30.10) is attached to a bronze disk. This object unfortunately raises as many questions as it might appear to answer, for it is uncertain whether its two parts were found together or were stuck together by the excavators, and it is also unclear whether the disk is a lid or a mirror. If it does turn out to be a complete early Islamic mirror, it would suggest that no. 188 is a mirror handle and would provide more evidence of early Islamic mirror forms to complement that discussed above (pp. 33–37).

CHAPTER 3

Lead Objects

The lead objects from Nishapur consist of two large bowls (nos. 189, 190), a miniature dish (no. 191), a pendant (no. 192), eight small weights (nos. 193–200), and one large one (no. 201). Other lead objects from excavation sites in Iran include a cosmetic mortar, a spatula, two pendants, a belt ornament, and a finial from Rayy (RH 4592, Rei 4031, RH 6553, Rei 4082, RGQ 8626, and RH 6190), coins from Siraf, and a dish from Maimana (Scerrato, “Oggetti metallici,” II, fig. 50). This variety suggests that lead was much more widely used in early Islamic times than has previously been proposed and goes some way toward countering a suggestion by Gordus that silver cannot have been extracted from lead ores since virtually no lead objects are found on early Islamic sites in Iran (Gordus, p. 139; see Allan, *Persian Metal Technology*, p. 17, for the technological arguments).

The lead bowl in The Metropolitan Museum of Art (no. 190) is of a shape not otherwise known in metalwork, though it is paralleled in unglazed ware from Nishapur (Wilkinson, *Nishapur*, pp. 316–17,

no. 83). The bowl in Teheran (no. 189) seems to be most closely paralleled by a bowl in black-on-white ware from Nishapur (Wilkinson, *Nishapur*, p. 105, no. 63). They may both be of ninth- or tenth-century date or later. The miniature dish (no. 191) is similar to a number of bronze miniature bowls from Iran; the pendant (no. 192) has no immediate parallels.

With one exception, the weights are all about the same size and may be spindle whorls. In Iran today spindle whorls are generally made of wood or iron and often have arms (H. E. Wulff, p. 185), but spindle whorls are traditionally simple disks (e.g., a spindle from Naxos published by L. M. Wilson [pl. 3, fig. 2]), and it is difficult to suggest a more likely function for these lead objects. They were probably cast in a stone mold such as was found in medieval layers at Corinth (Davidson, no. 2832). Many similar objects made of bone were also found at Nishapur. Weight no. 201, which is much larger than the others, may be a loom weight.

CHAPTER 4

Iron Objects

Only eight iron objects have been preserved from Nishapur. They consist of two adz heads and a shovel blade (nos. 202–204), an arrowhead and two dagger blades (nos. 205–207), one virtually complete sword, and half a sword blade (nos. 208, 209).

Apart from these two adz blades, only one other medieval example has so far been published—a blade from Shah Tepe (Arne, *Excavations*, p. 333, pl. 82, fig. 678), but the first is a shape also found in modern times (H. E. Wulff, pp. 79, 83). The form of the Nishapur shovel blade is not one used today; nor is it like the shovels depicted in the northern Iraqi *Kitāb al-Diryāq* manuscript of A.D. 1199, which, with their pointed blades and crossbars, are similar to the modern Shirazi style (Ettinghausen, *Arab Painting*, pp. 84–85). It is quite impossible to date any of these Nishapur implements.

A number of arrowheads have been excavated in Iran, in particular four at Siraf and others at Istakhr (Siraf S. 68/9, 2566; 69/70, 4968; 70/1, 358; and 2321). Eight were also found at Shamshir Ghar in Afghanistan (Dupree, pp. 260–62). A triangular variety of arrowhead like the Nishapur example is mentioned by Taibughā al-Ashrafī al-Bakhlamishī al-Yunānī, the Mamluk author of a manual on archery (Latham and Paterson, pp. 24–25, 31), and the form was thus widely known in the Islamic world. The only specific mention of centers for the manufacture of arrowheads comes in al-Jāḥiẓ, who records the town of Damavand under this heading (al-Jāḥiẓ, p. 344). (For further information on arrowheads and other weapons, see Allan, *Persian Metal Technology*, pp. 92–93.)

Many dagger- or knife blades have been found in Iran at Siraf, Shah Tepe (Arne, *Excavations*, p. 333), Rayy, and Istakhr. It is impossible at present to distinguish daggers from knives or to categorize the Nishapur objects.

Of the two swords found at Nishapur, the second example (no. 209), a mere half-blade, requires little comment. It was evidently straight and double edged, but its original length is unknown, as are the details of its hilt, cross guard, scabbard, and other furnishings. Sword no. 208, however, the so-called Nishapur sword, has survived in a remarkable state of preservation and calls for a more detailed discussion.

The Nishapur sword consists of a long, straight single-edged blade with cross guard attached; the upper part of the hilt, two gilt-bronze mounts, and a ring attached to a bosslike plate were also found. The cross guard consists of two pieces of bronze that were probably riveted together around the blade tang. It has cinquefoil quillons and palmette-like leaf forms in relief both in the center and within the terminals. The two mounts on the remains of the wooden scabbard were each constructed as follows: a bronze sheet of double-ogive-bracket shape was riveted to two bronze bands that run around the scabbard; the quillon was further riveted to a band of its own shape. All three bands have cut-out trefoil decoration on their inner sides. Behind each bronze plate is a large lump of corroded iron; these are presumably the remains of the rings that joined the mounts to the suspension straps.

Surviving rock reliefs show that during the Sasa-

nian period an entirely new type of sword was introduced into Iran. In the earlier Sasanian rock reliefs, the swords shown are of two types: a long, straight double-edged sword with cross guard slung at the left of the body from a belt around the waist and attached to that belt either by buttons or a bridge mount, or a short sword slung in the same way at the right of the body. But in the grotto at Taq-i Bustan, in the latest of the rock reliefs, probably dating from about A.D. 600, appears a straight sword slung at the left of the body by two separate straps, each leading to its own mount on the upper edge of the scabbard (Fukai and Horiuchi, I, pls. LXXXIX–XC). That this style first appeared in Iran in late Sasanian times is borne out by a wall painting in the seventh-century monastery at Funduqistan in Afghanistan (Hackin et al., fig. 199), in which it appears in the company of a sword slung in traditional Sasanian fashion.

The mounts on the Taq-i Bustan example do not dominate the decoration. Indeed, they are almost invisible, and it is the scabbard itself that catches the eye. On the various late Sasanian swords published by Ghirshman and Nickel and on those depicted at Funduqistan there is perhaps more decorative emphasis on the mounts and related parts of the scabbard, but there is no decorative scheme to compare with that found on the Nishapur sword, for here the scabbard decoration is confined to the area of the mounts and to the very tip. Moreover, the form of the mounts on the Nishapur sword is quite different from the approximately P-shaped mounts common in Sasanian times. We must therefore look for some other external source of inspiration for the Nishapur sword style, despite the fact that the twin-mounted straight sword was already known in Iran.

Fortunately, such a source of inspiration does present itself. An extremely close parallel to the Nishapur sword was found at Srostki in the Altai Mountains and is now in the museum at Bisk (Arendt, pl. VIII; Fettich, pl. 31). Like the Nishapur sword, it has ornamented mounts of double-ogive-bracket form riveted to a pair of bands attached to the scabbard. Moreover, similar mounts, though sometimes of more semioval form, are found on other examples of this sword type that have come

to light further west in Russia and in the Caucasus (e.g., Arendt, pl. VI, 12). Examples average 70–79 centimeters in their blade length and 3–3.3 centimeters in blade width, comparing well with the Nishapur sword blade's length of 71.5 centimeters and its width of 3.5 centimeters. Many of the swords found in Russia and the Caucasus also had a curved hilt, and here the surviving upper part of the hilt of the Nishapur sword is of great interest. Although it is straight, its wooden core has its grain running diagonally to its surviving line. This strongly suggests that the core of the hilt was set diagonally to its body and that the hilt itself was therefore curved. Here, then, we have another close link with swords further north. The final parallel is the ring, which, according to the expedition photographs, was found attached to the hilt of the sword, where it would have held a leather wrist strap that would have prevented the sword's falling to the ground by accident. Such rings are also found on Central Asian and Far Eastern swords (e.g., Nickel, fig. 10).

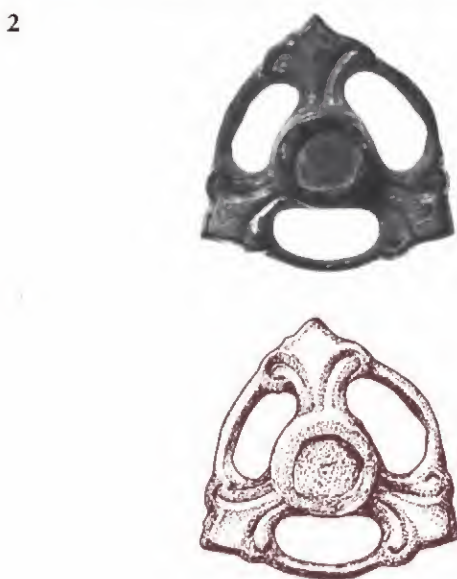
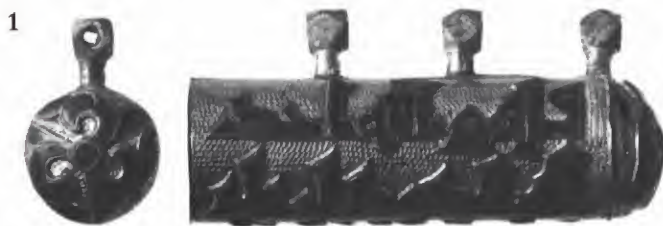
The Russian and Central Asian swords cited can be given at least an approximate dating from the findspot of a particular sword of this type from the area of Kharkov, now in the Moscow Anthropological Museum (Arendt, pp. 50–51). This sword was found in one of a group of graves in which Islamic coins of the years 123/740 and 183/799 were also found, suggesting that the sword may be dated to approximately the ninth century. This dating is supported by two simple sword-mount brackets of similar form found in excavations at Pusztá-Tóti, which from their context are unlikely to be earlier than the eighth century (Hampel, I, p. 24; III, pl. 268, nos. 12, 13). Moreover, according to verbal information from Wilkinson, the Nishapur sword was found at a "low level" in area Y2 of Tepe Madraseh, while a tenth-century monochrome luster dish was found at an "intermediate level." This tends to confirm a ninth-century date for the sword.

The spread of this sword form westward from the Altai seems to be due to the Avar migrations, though the actual movements of peoples through western Asia and eastern Europe at this period are by no means understood, and there is considerable scholarly disagreement on the nature and dates of the main Avar migrations themselves (see Erdelyi,

pp. 15–26, for a concise summary of the points at issue). In relation to Iran, however, it would appear that the Nishapur sword demonstrates the influence exerted by people of Central Asian and Turkish origin, who were already being recruited deliberately for the caliphal armies in Iraq in the ninth century and must have been increasingly numerous in the lands bordering the Oxus. They brought a wide variety of artistic and cultural traditions with

them, and these objects have been closely documented by Emil Esin (“The Cup Rites,” “Oldrug-Turug”); to these, thanks to the Nishapur excavations, may now be added the form of sword used by the Avars, and with that addition comes the fascinating possibility that the Turkish caliphal guard in Baghdad or Samarra may well have been armed with swords of the Avar type.

Catalogue





Silver and Bronze Personal Objects

Amulet case

1. Teheran; Nishapur, Tepe Madraseh, well in annex W4; Hauser and Wilkinson, fig. 37. Silver; partially gilded; relief decoration; incised and nielloed; l. 7.3 cm.; diam. 2.1 cm. Cylindrical with domed ends, one forming cap; four suspension cubes with rhomb faces on arms. On ends three wheeling half-palmettes; along top herringbone pattern; on body Koranic Kufic inscription against punched ground: *qul huwa allāhu aḥadun allāhu 'ṣ-ṣamadu lam yadid wa lam yūlad wa lam yakun lahu kuḥūan aḥadun* ("Say: 'Allah is One, the Eternal God. He begot none, nor was He begotten. None is equal to Him' ")—Sura CXII.

Appliqué

2. MMA 37.40.9; Nishapur, purchase. Bronze; cast; gilded; originally inlaid; diam. 3.7 cm. Circular; central boss with three radiating palmette arms, the end of each joined by outer band.

Bells

3. MMA 40.170.421a; Nishapur. Bronze; h. 2.8 cm.; diam. 2.1 cm. Oval; ridge around center; split opening in lower body misaligned with ring handle.

4. MMA 40.170.421b; Nishapur. Bronze; h. 2.4 cm.; diam. 1.8 cm. Flattened pear shape; split opening in lower body; ring handle aligned with split.
5. MMA 40.170.421c; Nishapur. Bronze; h. 2.3 cm.; diam. 1.6 cm. Spherical; split opening in lower body aligned with ring handle.

Belt fittings

6. MMA 40.170.257; Nishapur, Tepe Madraseh, X2 below top floor. Bronze; cast; originally gilded; two lugs; 2.6 x 1.8 cm. Short pointed rectangle. Molded lyre-shaped palmette pattern.
7. MMA 40.170.255; Nishapur, Tepe Madraseh, T area middle level. Bronze; cast; gilded; two lugs; 2.9 x 2.2 cm. Rectangle with small point. Design suggests two wings and head.
8. MMA 40.170.214; Nishapur, Tepe Madraseh, T area middle level. Bronze; cast; gilded and incised; four lugs; 2.9 x 1.8 cm. Round-ended rectangle with protrusions. Inscribed *al-mulk lillāh* ("Sovereignty belongs to God") in Kufic script.
9. MMA 40.170.215; Nishapur, Tepe Madraseh. Bronze; cast; gilded and incised; one lug; 2.9 x 1.7 cm. Like no. 8 in form and design.

10



11



10. Teheran; Nishapur. Bronze; dimensions unknown, but apparently a pair to no. 9. Like no. 8 in form and design.

11. Teheran; Nishapur, Tepe Madraseh. Bronze; 3 x 1.8 cm. Pointed rectangle. Palmette design at lower end.

12. MMA 40.170.277; Nishapur, Village Tepe. Bronze; cast; two lugs; 3.7 x 2 cm. Circular ring cast with pointed rectangular body. Body decorated with vegetal scrolls.

13. Teheran. Pair to no. 12.

14. Teheran; Nishapur, Tepe Madraseh, X2 below top floor. Bronze; l. 3.6 cm. Pointed rectangle. Undecorated.

15. MMA 40.170.210; Nishapur, Tepe Madraseh, R4 between first and second floors. Bronze; cast; gilded; two lugs; 3 x 2.6 cm. Rectangular. Design of a flower with four leaves and two symmetrical stems.

16. Teheran. Pair to no. 15.

17. MMA 40.170.208; Nishapur, Tepe Madraseh, X2 below top floor. Bronze; once gilded; cast; two lugs; 2.5 x 1.7 cm. Irregular rectangle. Vegetal design with four round bulges and two leaflike ones.

18. Teheran. Pair to no. 17.

19. MMA 40.170.207; Nishapur, Tepe Madraseh, W15 well gatch level. Bronze; cast; once gilded; three lugs; 4.6 x 1.4 cm. Irregular rectangle. Vegetal design with two round bulges alternating with two double-leaf ones.

20., 21. Teheran. Similar to no. 19.

22. Teheran; Nishapur, Tepe Madraseh, C9 well 2. Bronze; incised; 1.5 x .8 cm. Rectangular. Simple geometric pattern.

12



13



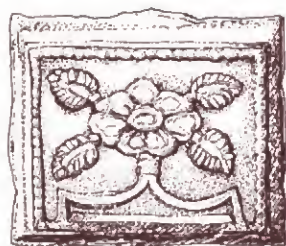
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17, 18



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19, 20, 21



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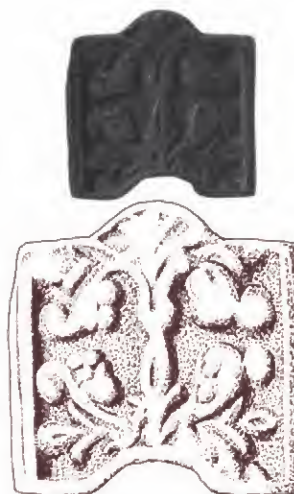


23



23. Teheran; Nishapur, Tepe Madraseh, C9 well 2. Bronze; incised; 1.5 x .8 cm. Rectangular. Simple geometrical pattern of two diamonds with dots.

24



24. Teheran; Nishapur, Tepe Madraseh, T area middle level. Bronze; incised; 2.2 x 2.1 cm. Rectangular with indented lower side and rounded protrusion on upper side. Plant design with two pairs of leaves and central stem.

25. Teheran; Nishapur, Tepe Madraseh, T area middle level. Bronze; gilded; incised; 2 x 1.8 cm. Cordiform. Vegetal motif.

26. Teheran; Nishapur, Tepe Madraseh, C9 well 2. Bronze; incised; 1.7 x 1.3 cm. Cordiform. Trefoil design.

27. Teheran. Pair to no. 26.

28. MMA 40.170.209; Nishapur, Tepe Madraseh, X2 below top floor. Bronze; remains of gilding; cast; one lug; 1.8 x 1.8 cm. Irregularly cordiform; two pear-shaped bulges above two double-leaf ones.

29. Teheran; Nishapur, Tepe Madraseh, T area middle level. Bronze; gilded; incised; 2.4 x 2.1 cm. Cordiform, but lobed with flat base. Design of a reclining feline creature looking over its shoulder.

30. MMA 40.170.144; Nishapur, Tepe Madraseh, S4 second level. Silver; cast; gilded; two lugs; 4.4 x 2.5 cm. Rectangular with large trefoil protrusion at end of one side. Faint vegetal design.

31. MMA 40.170.256; Nishapur, Tepe Madraseh. Bronze; cast; gilded; two lugs; top part missing; 2.7 x 2.5 cm. Original shape probably an irregular rectangle. Forelegs of animal amid openwork within linear border.

32. MMA 40.170.254; Nishapur, Tepe Madraseh, T area middle level. Bronze; cast; gilded; three lugs; 3.6 x 3 cm. Irregular concave-sided diamond shape. Central boss with bird design.

33. Teheran; Nishapur, Tepe Madraseh. Bronze; incised; 3.6 x 1.2 cm. Narrow rectangle with palmette-shaped ends. Central square containing palmette design between two palmettes.

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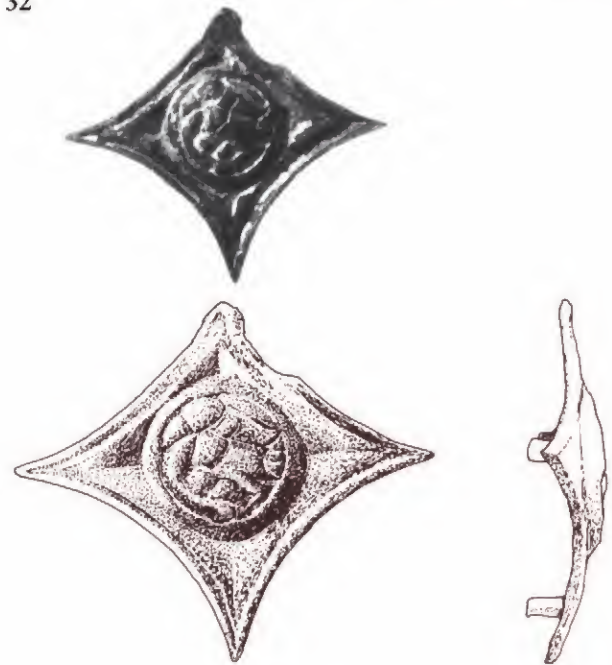
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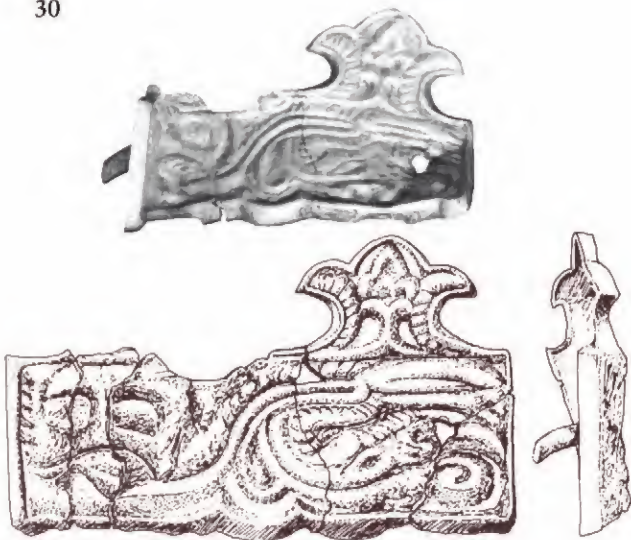
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33



34. Teheran; Nishapur, Tepe Madraseh, U6. Bronze; 3.3 x 3.2 cm. Original shape probably square. A palmette with two bulbous leaf forms attached to a central stem.
35. Teheran; Nishapur, Tepe Madraseh, S4 second level. Silver; incised and nielloed; 2.1 x 2.3 cm. Rectangular with rounded end. Hole pierced in center of square end. Vegetal design.
36. MMA 40.170.271; Nishapur, Village Tepe. Buckle. Silver; one lug; pin and tongue missing; broken end; 2.7 x 1.8 cm. Rectangular body with pinhole and gap for tongue; circular ring.
37. Teheran; Nishapur, Village Tepe. Buckle. Bronze; tongue missing; 3 x 2.4 cm. Slightly pointed with rectangular strap slot.
38. Teheran; Nishapur, Tepe Madraseh, C9 well 2. Buckle. Bronze; 4.7 x 1.6 cm. Two pieces, each with approximately rectangular strap slot; one has projecting boss that fits through circle projecting from other.

Bracelet

39. Teheran; Nishapur, Qanat Tepe, 2E2. Gold; granulation; half missing; thickness 3 cm. Terminal in form of snake's head.

Earrings and nose rings

40. Teheran; Nishapur, Qanat Tepe by gatch room. Gold; diam. 1 cm. Ring with two plain beads.
41. MMA 40.170.154; Nishapur, South Horn. Gold; fragment only; diam. each sphere 3 cm. Set of six gold spheres on a wire.
42. MMA 40.170.155; Nishapur, Sabz Pushan. Gold; fragment only; diam. 1.5 cm. Hollow crescent with suspension ring on top.
43. MMA 40.170.153; Nishapur, Tepe Madraseh, R corridor well. Gold; with garnets; diam. 1.4 cm. Ring with one plain gold bead and one garnet.
44. Teheran. Pair to no. 43.

Finger rings

45. MMA 40.170.156; Nishapur, Sabz Pushan, 9D. Gold; stone missing; diam. 1.6 cm. Oval ring; round, narrowing, plain bezel, with remains of teeth.
46. Teheran; Nishapur, Tepe Madraseh. Gold; diam. 2 cm. Circular ring; round, narrowing, plain bezel.



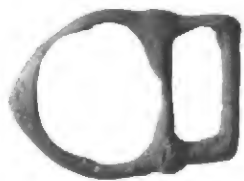
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47. Teheran; Nishapur. Bronze; stone missing; diam. 2.5 cm. Oval ring with round, narrowing bezel. Undecorated.
48. MMA 39.40.125; Nishapur, Qanat Tepe. Bronze; diam. 1.9 cm. Ring circular inside, angular outside; round, narrowing bezel. Undecorated.
49. MMA 40.170.201; Nishapur, Sabz Pushan. Silver; set with carnelian; diam. 2.2 cm. Rectangular, flaring bezel with small claws; flattened shoulder.
50. MMA 40.170.202; Nishapur. Silver; turquoise setting; diam. 2.5 cm. Rhomb-shaped flaring bezel with small claws; flattened shoulder.
51. MMA 39.40.124; Nishapur, Tepe Madraseh. Silver; stone missing; diam. 2.3 cm. Tall, oval, flaring bezel; flattened shoulder.
52. Teheran; Nishapur, Tepe Madraseh. Silver; stone missing; diam. 2.1 cm. Tall, oval, flaring bezel; flattened shoulder.
53. Teheran; Nishapur, Sabz Pushan. Silver; set with inscribed white glass paste; diam. 1.8 cm. Rectangular, rounded, flaring bezel; rounded shoulder.
54. MMA 40.170.204; Nishapur, Qanat Tepe. Silver; stone missing; diam. 1.2 cm. Low, hexagonal bezel; remains of small claws.
55. MMA 39.40.123; Nishapur, Qanat Tepe. Silver; stone missing; diam. 2.6 cm. Large, oval bezel; bases of large claws intact.
56. Teheran; Nishapur, Qanat Tepe. Bronze; red glass setting; diam. 1.8 cm. Round bezel.
57. Teheran; Nishapur. Bronze; diam. 2.1 cm. Circular protruding face. Undecorated.
58. Teheran; Nishapur, Qanat Tepe. Bronze/silver; diam. 2 cm. Circular inner face, angled outer face; low, rectangular bezel.
59. Teheran; Nishapur, near Qanat Tepe. Bronze/silver; diam. 2.5 cm. Thick ring with oval bezel.

Pendants

60. MMA 40.170.246; Nishapur. Silver; incised; diam. 1.9 cm. Circular disk; eye at right angles. Incised with five lines of Kufic script, probably designed to read *lā allāh illā'llāh* ("There is no god but God"). On reverse symbols for the astrological signs Leo and Scorpio with border of Kufic letters.



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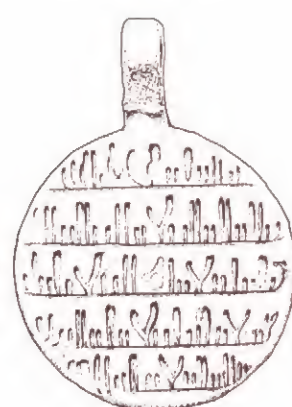
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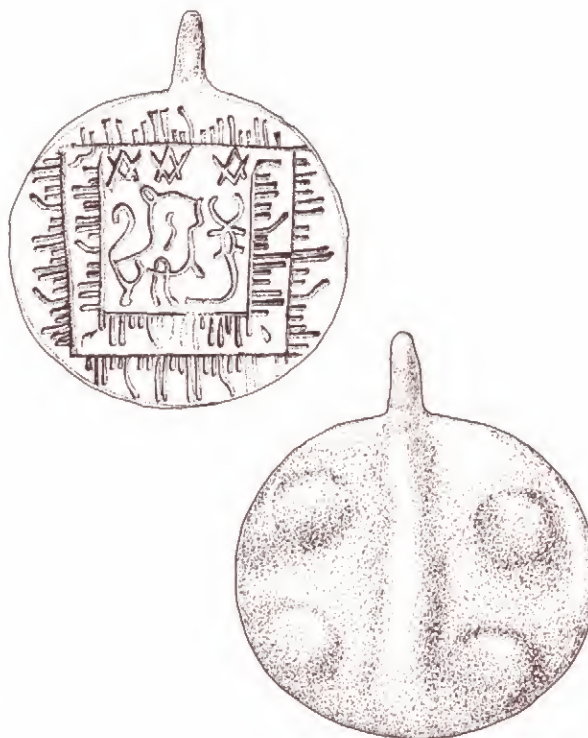




61. MMA 40.170.245; Nishapur. Bronze; cast; diam. 2.4 cm. Circular disk; eye at right angles. On obverse incised symbols for astrological signs Leo and Scorpio surrounded by talismanic Kufic letters. On reverse four bosses and central ridge.
62. MMA 40.170.278; Nishapur, Sabz Pushan. Bronze; cast; one eye missing; diam. 2.2 cm. Open crescent form with suspension eyes at two points; six facets. Undecorated.
63. Tehéran; Nishapur, Sabz Pushan. Bronze; diam. 2.2 cm. Similar to no. 62.
64. MMA 39.40.142; Nishapur, Qanat Tepe. Bronze; cast; diam. 2.6 cm. Form identical to that of no. 62, with cube-shaped suspension eyes, projecting trefoil at base, and five facets. Incised scrollwork.
65. MMA 40.170.273; Nishapur, Qanat Tepe. Bronze; cast; l. 5.2 cm.; w. 2.4 cm. Pear-shaped with eye at top and projection at base; pear-shaped hole near base. Vegetal design on one side.
66. Teheran; Nishapur, Sabz Pushan. Bronze; cast; l. 5.7 cm.; w. 2 cm. Pear-shaped with eye at top and projection at base. Incised band at widest point.
67. Teheran; Nishapur, Falaki. Bronze; h. 3.7 cm. In form of a boot.

Pins

68. MMA 39.40.139; Nishapur, Tepe Madrasedh, C6. Bronze; cast; h. 9.7 cm. Pinhead in form of bird with wings folded.
69. MMA 40.170.261; Nishapur, Sabz Pushan. Bronze; cast; pin broken; h. 2.1 cm.; l. 3 cm. Bird with bulbous head and flat tail.
70. Teheran; Nishapur, Qanat Tepe. Bronze; pin broken; h. 4.6 cm. Bird with erect tail.
71. Teheran; Nishapur, Sabz Pushan. Bronze; pin broken; h. 3.9 cm.; w. 3 cm. Bird with flat tail.



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63



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68



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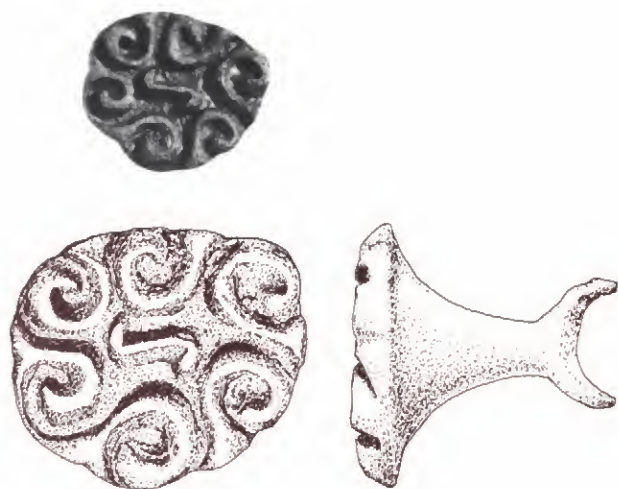
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71



Seals

72. MMA 40.170.213; Nishapur, Village Tepe. Bronze; cast; ring at top broken; h. 2.3 cm.; base diam. ca. 2.3 cm. Circular base with protruding seal pattern of curves; conical shaft topped by ring.
73. Teheran; Nishapur. Bronze; base diam. ca. 3 cm. Circular base with protruding stylized leaf pattern.
74. MMA 39.40.135; Nishapur, Tepe Madraseh. Bronze; cast; incised; h. 2.5 cm.; base diam. 2.3 cm. Circular base with incised cross and radiating lines; body waisted with sloping shoulder and knob on top.

Stylus

75. Teheran; Nishapur, Qanat Tepe. Bronze; l. 3.8 cm. Ring top; turned center; pointed end.

Bronze Objects

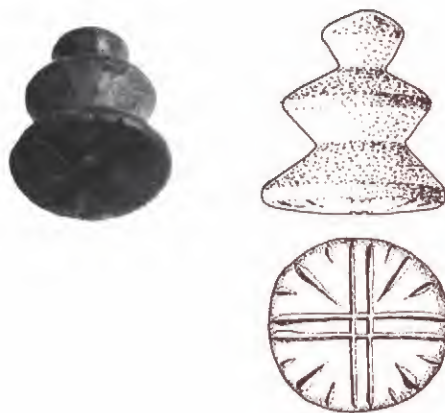
COSMETIC OBJECTS

Mirrors

76. MMA 40.170.265; Nishapur. Bronze; cast; diam. 6 cm. Central pierced boss; low rim. Decorated with molded six-petaled rosette pattern.
77. Teheran; Nishapur, Bazaar Tepe, pit at level of piers. Bronze; cast; diam. 10.7 cm. Central boss. Inner zone of decoration with four running hares; outer zone of decoration badly corroded.

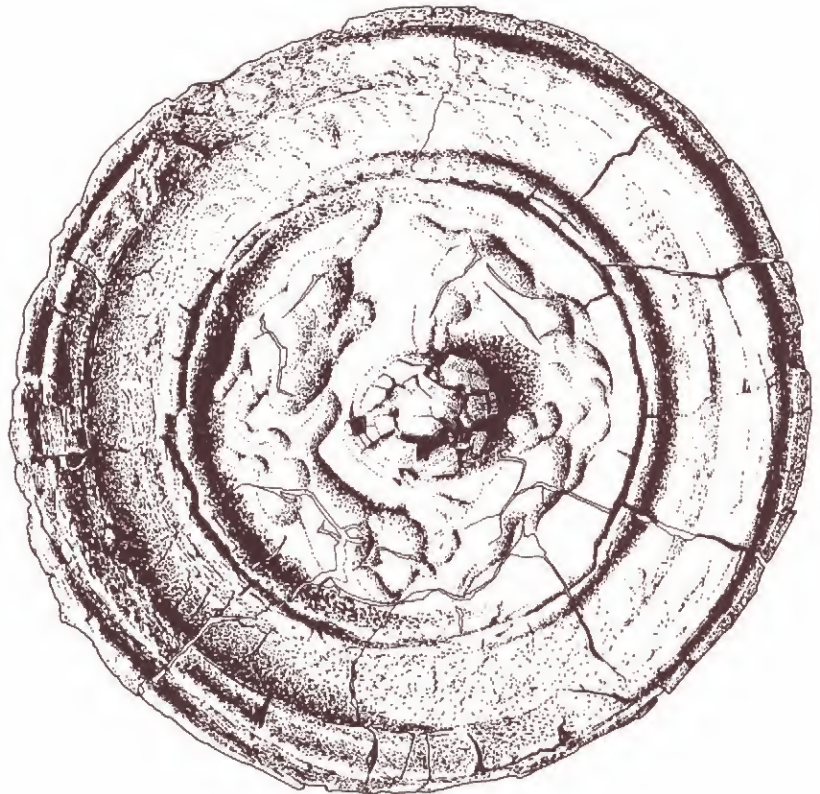


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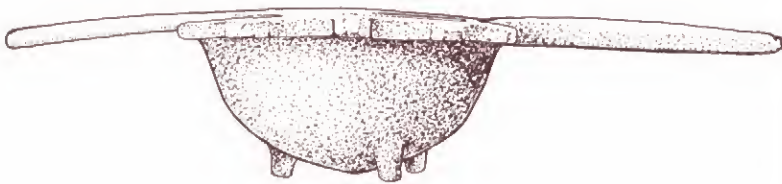
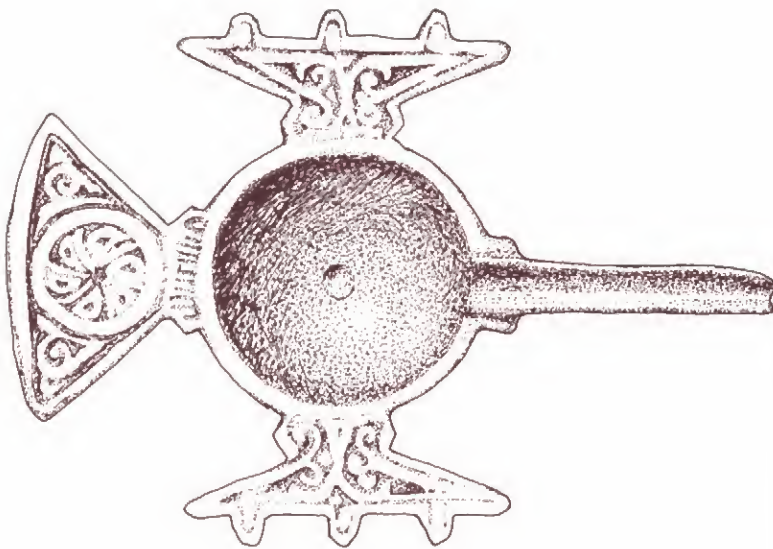
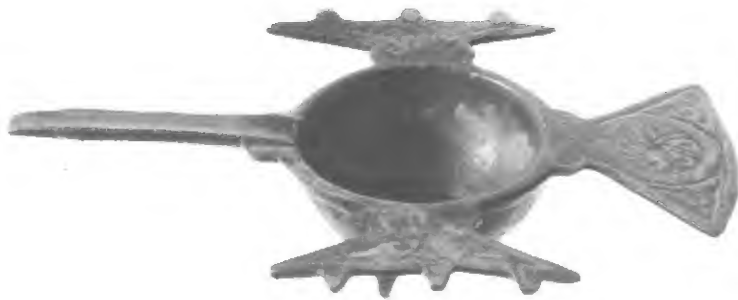




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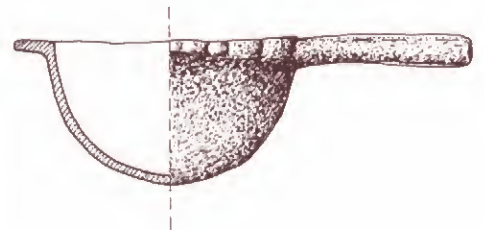
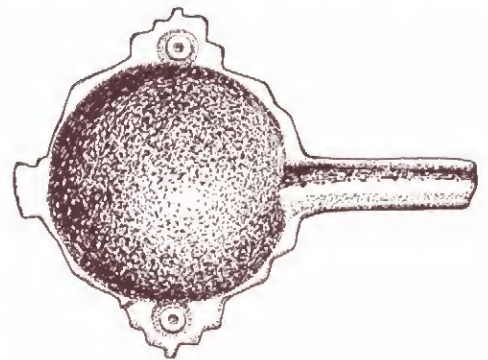


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80



78. MMA 40.170.252; Nishapur, Sabz Pushan. Mirror handle. Bronze; gilded; cast; h. 3.3 cm.; l. 8.3 cm. Rectangular handle; two flat feet; stylized animal head protruding from each corner with toothlike protrusion behind.

Cosmetic mortars

79. MMA 39.40.100; Nishapur. Bronze; cast; l. 13.5 cm.; diam. 8.4 cm.; h. 2.7 cm. Hemispherical body; narrow, horizontal spout; three-sided handle, angular side flanges, and three small boss feet. Decorated with whirling rosette, protruding bosses, and stem-and-leaf designs.

80. MMA 39.40.51; Nishapur. Bronze; handle broken; l. 8 cm.; diam. 6 cm.; h. 2.4 cm. Hemispherical body; narrow, horizontal spout; no foot; crudely lobed side flanges. Dot-and-circle motifs.

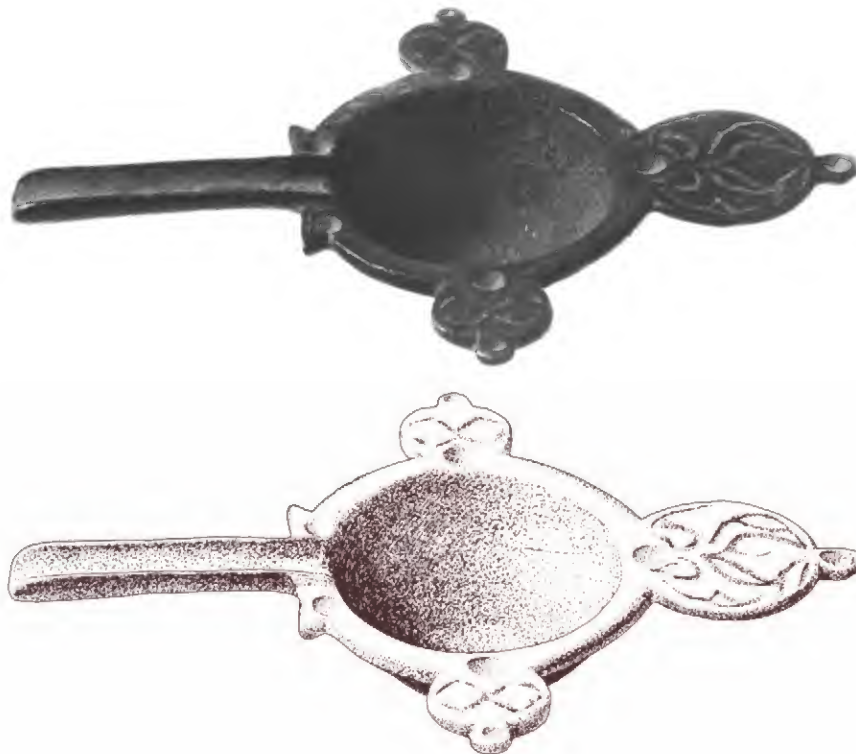
81. Teheran; Nishapur, Tepe Madraseh, W15. Bronze; l. ca. 11 cm. Hemispherical body; narrow, horizontal spout; foot ring; small side flanges; lobed handle. Dot-and-circle motifs on handle.

82. Teheran; Nishapur. Bronze; l. ca. 11 cm. Form similar to that of no. 81, but oval handle and trefoil side flanges. Decorated with diamond-shaped and circular ornaments.

81



82



Kohl sticks

83. Teheran; Nishapur. Bronze; l. 7.6 cm. Slightly less than half missing. Original center has geometric decoration.
84. Teheran; Nishapur. Bronze; l. 7.4 cm. Slightly less than half missing. Original center has geometric decoration.

Toilet flasks

85. Teheran; Nishapur, South Horn. Bronze; h. 6.8 cm.; diam. 2.4 cm. Elongated, conical body with rounded profile and vertical ribbing; sloping shoulder; cylindrical neck; small rim. Undecorated.
86. MMA 40.170.272; Nishapur. Bronze; cast; half of a two-piece flask; h. 5.7 cm.; w. 2.8 cm. Body pointed with facets and leaflike protrusions; sloping shoulder; collar and neck with three facets. Undecorated.
87. Teheran; Nishapur, near Tepe Madraseh. Bronze; h. 5.3 cm. Pear shaped with three faces each side. Central face decorated with palmette; other faces with scrolling stem.

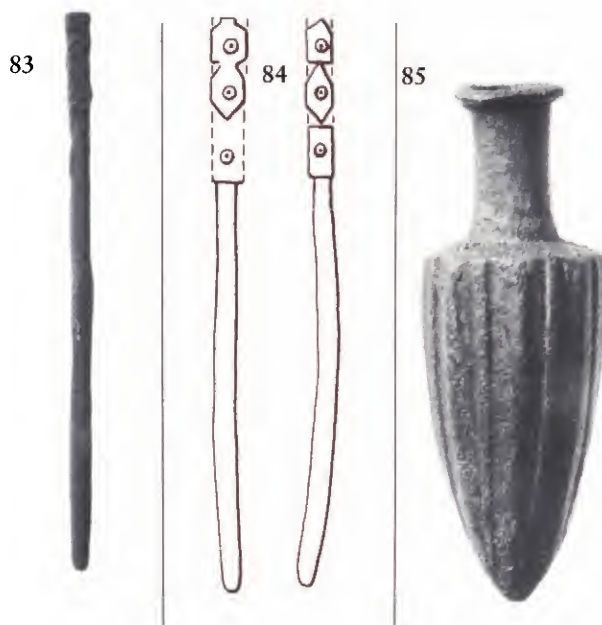
Tweezers

88. Teheran; Nishapur, Tepe Madraseh. Bronze; l. 4 cm. Simple form; made of a single piece of bronze. Undecorated.
89. MMA 39.40.70; Nishapur, Vineyard Tepe, VI. Bronze; l. 9.8 cm.; w. .6 cm. Made of a single piece of bronze with separate adjustable sliding piece for altering opening distance. Squared grip area; otherwise undecorated.

HOUSEHOLD OBJECTS

Bottles

90. MMA 39.40.48; Nishapur, Qanat Tepe, 4A1 deeper. Bronze; cast; incised; h. 15 cm.; diam. 9 cm. Flaring mouth; ridge at neck base; domed body; body and neck faceted; separate concave lid with cusped edge and cross-shaped opening; central hole in base, diam. 4.7 cm., with separate disk soldered in. Body and neck facets outlined with inverted arcading; bands of interlace around mouth and above base; band of wave-and-dot pattern on shoulder.



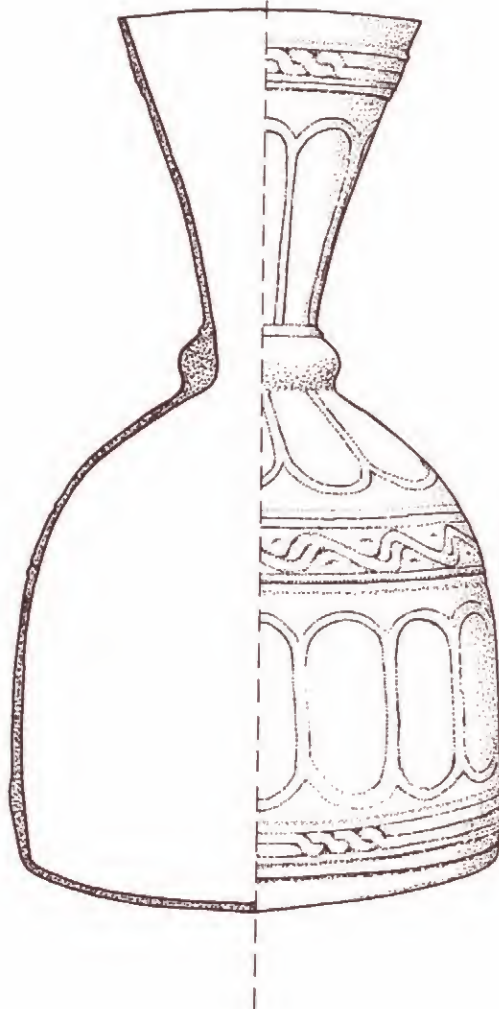
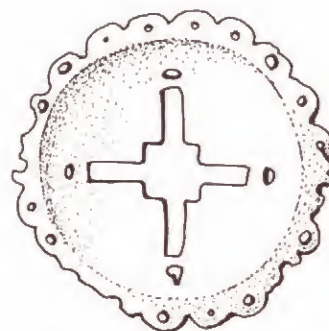
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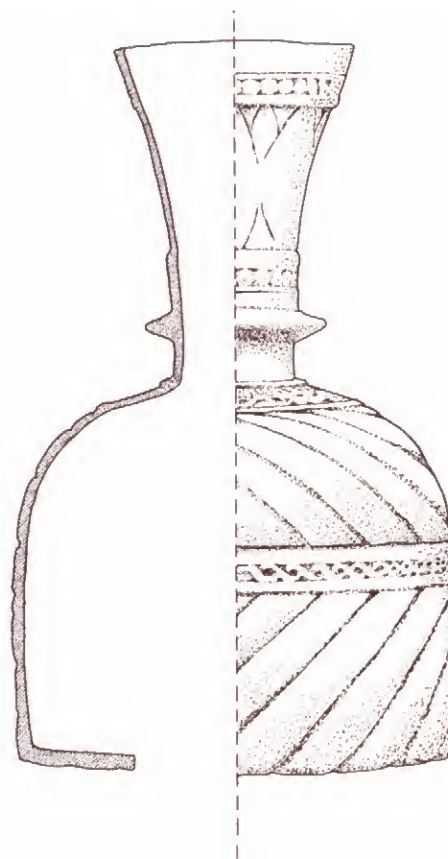
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90



77



91. MMA 48.101.13; Nishapur, purchase. Bronze; cast; incised; no lid; h. 16 cm.; diam. 9.2 cm. Mouth similar to that of no. 90, but with projecting flange near base; body similar to that of no. 90, but more cylindrical; circular hole in base, diam. 4.5 cm. Body decorated with diagonal, rounded moldings above and below a double band of geometric interlace; on upper shoulder simple scroll band and band of diagonal lines; on neck and mouth rim band of squares.

Dish

92. MMA 37.40.30; Nishapur, purchase. Bronze; cast; diam. 9.5 cm.; h. 2.1 cm. Five-sided dish with flat base and sloping sides, the inside corners rounded and indented; horizontal flaring handle with trilobed end. Undecorated.

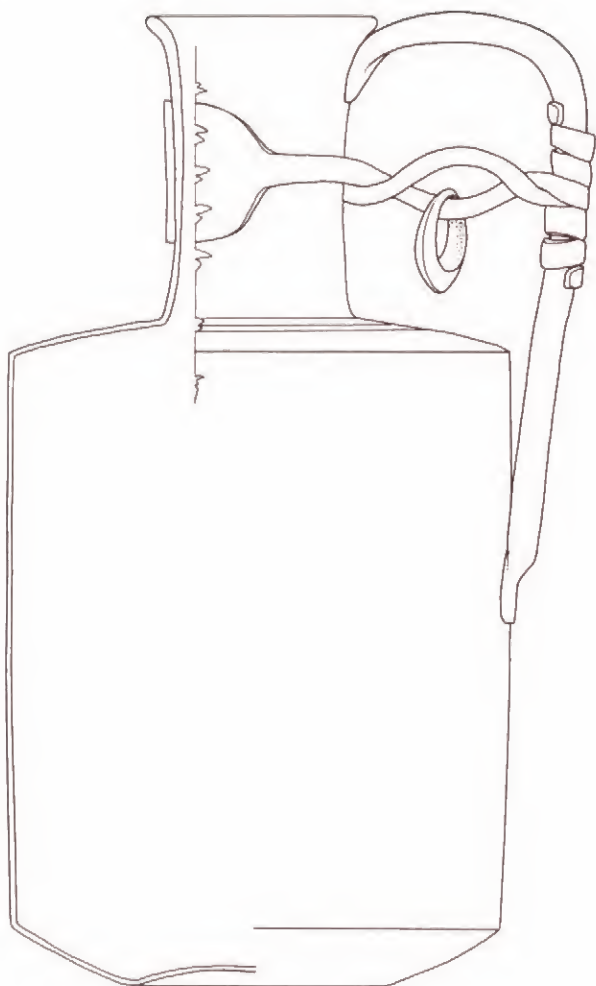
Ewers

93. Teheran; Nishapur, Tepe Madraseh, well Wo, deep level. Bronze; beaten; punched and incised; fragmentary; h. 30.2 cm.; diam. 15.8 cm. Cylindrical body with sloping shoulder and base, the center of the base slightly concave; cylindrical neck with round, slightly flaring mouth; handle soldered to body and neck; metal strip around neck and handle, from which hangs a ring. Narrow line of hatching and band of circles on shoulder.
94. Teheran; Nishapur, Tepe Madraseh, well Wo, deep level; Wilkinson, *Nishapur*, p. 302 (bottom left). Bronze; beaten; punched and incised; fragmentary; h. 30 cm.; diam. 16.4 cm. Form like that of no. 93. Three groups of three-petaled flowers in threes alternating with three five-leaved plants on shoulder.

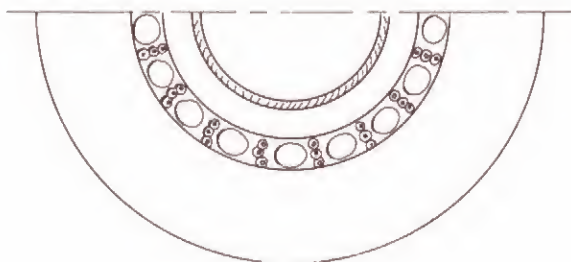
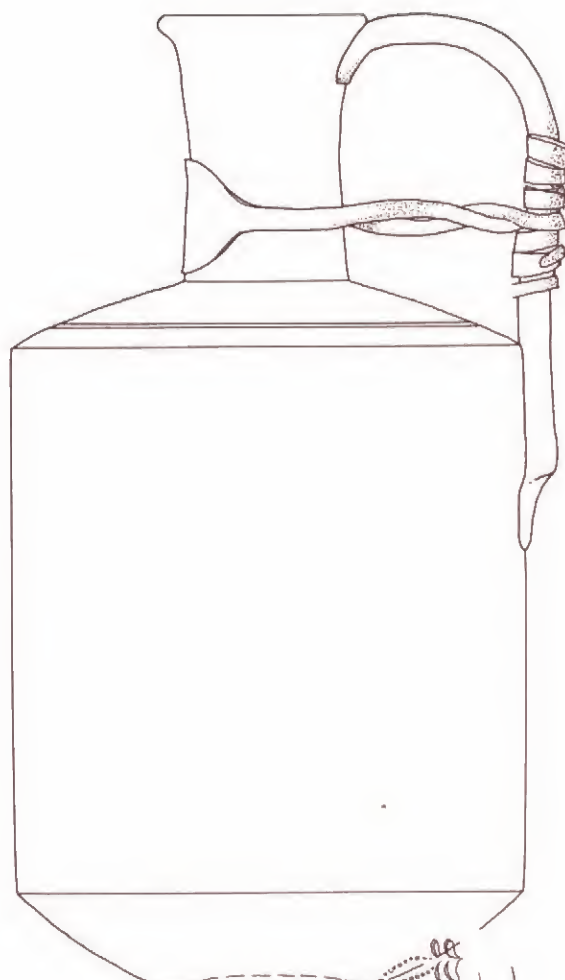
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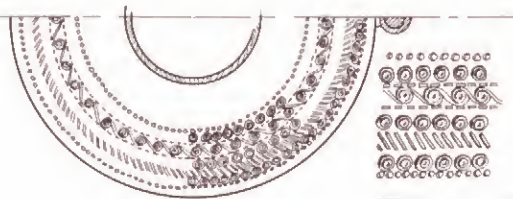
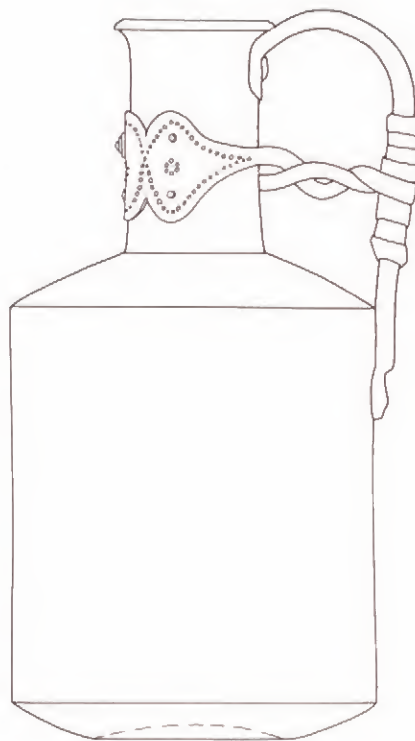


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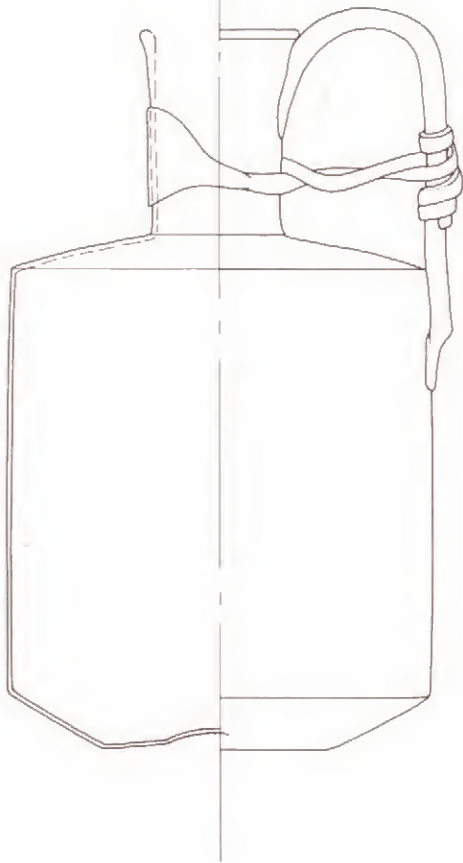
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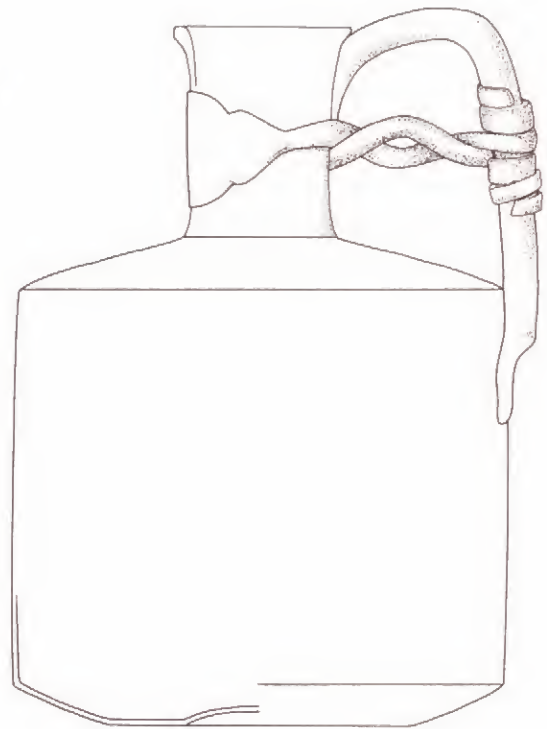


95. Teheran; Nishapur, Tepe Madraseh, latrine corridor R. Bronze; beaten; punched and incised; h. 26.6 cm.; diam. 13.8 cm. Form like that of no. 93, but handle riveted to neck. Bands of circles and diagonal lines on shoulder; trilobed, flattened part of metal strip around neck decorated with punched circles and apparently riveted to neck.
96. Teheran; Nishapur, Tepe Madraseh, well Wo, deep level. Bronze; beaten; fragmentary; h. 29 cm.; diam. 16.4 cm. Form like that of no. 93. Undecorated.
97. Teheran; Nishapur, Tepe Madraseh, well Wo, deep level. Bronze; beaten; fragmentary; h. 28 cm.; diam. 19.2 cm. Form like that of no. 93, with trilobed strip around neck. Undecorated.
98. Teheran; Nishapur, Qanat Tepe. Bronze; beaten; punched, incised, and tinned; fragmentary; h. 18.4 cm.; diam. 11.6 cm. Form like that of no. 93, but handle and strip riveted to neck; strip around neck trilobed, with metal eye and ring. On shoulders circles and lines.
99. Teheran; Nishapur, Tepe Madraseh, well Wo, deep level. Bronze; beaten; fragmentary; h. 26.6 cm.; diam. 13.4 cm. Form like that of no. 93, but handle riveted to neck and body; no metal strip. Undecorated.

96

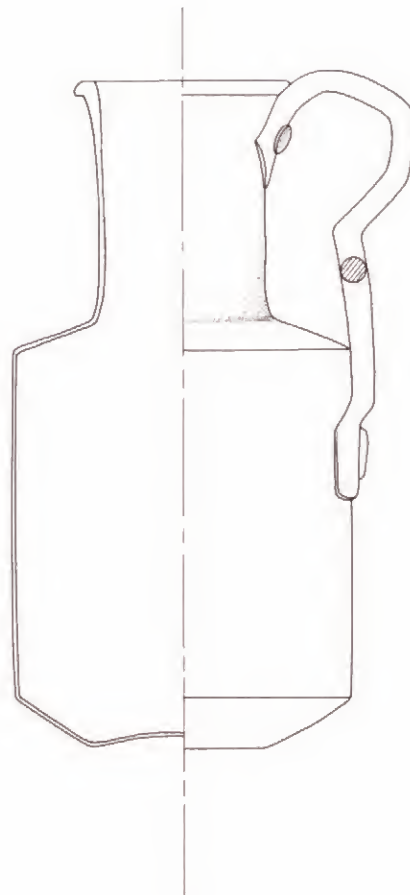
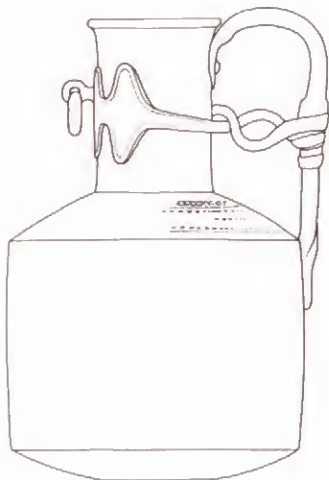


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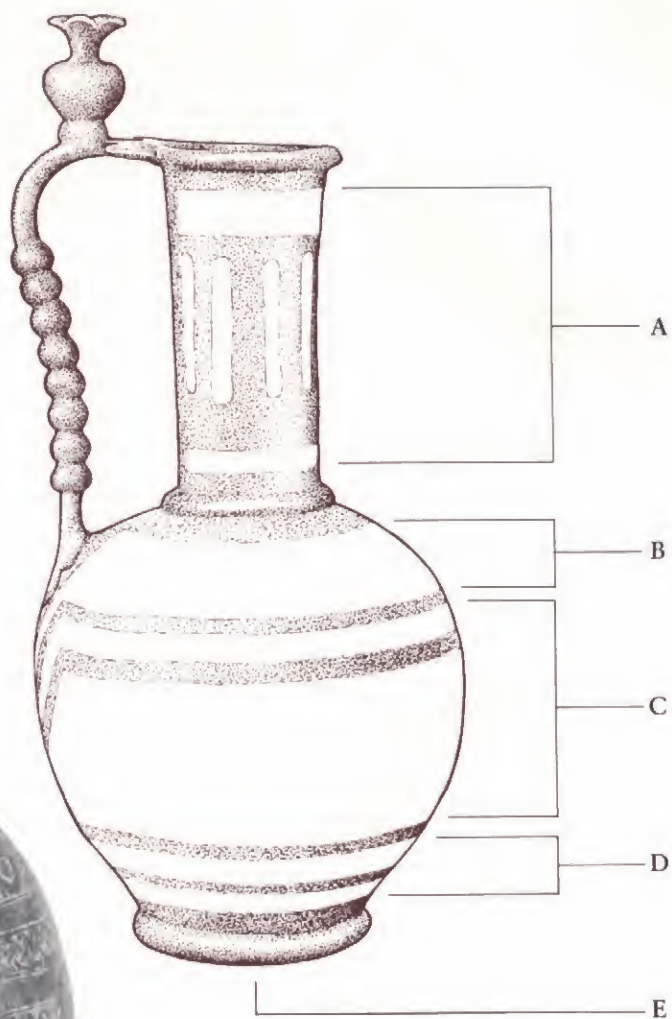
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E



100. MMA 38.40.240; Nishapur, Tepe Madraseh, middle level; Hauser, Upton, and Wilkinson, fig. 23; Marshak, "Bronzoviy kuvshin iz Samarkanda," fig. 9. Bronze; cast; incised; h. 33.5 cm.; diam. 16 cm. Ovoid body with high shoulder; low foot; tall, slightly flaring cylindrical neck with rounded lip; two silhouetted wings adjoining handle top; curved handle with eight beads, pomegranate finial, and pointed, lobed base. On neck band of Kufic inscription and band of interlace, with vertical lines of interlace pattern between; on shoulder Neskhī inscription; around body hunting scene against scrolling stems with band of interlace above and below; on base a standing bird; inscription on shoulder: *bī'l-yumn wa'l-baraka wa'l-surūr wa'l-sa'āda wa'l-salāma* ("With good fortune, blessing, joy, happiness, and peace"); inscription on neck: *bī'l-yumn [wa'] l-baraka wa'l...wa'l-surūr* ("With good fortune, blessing . . . and joy").



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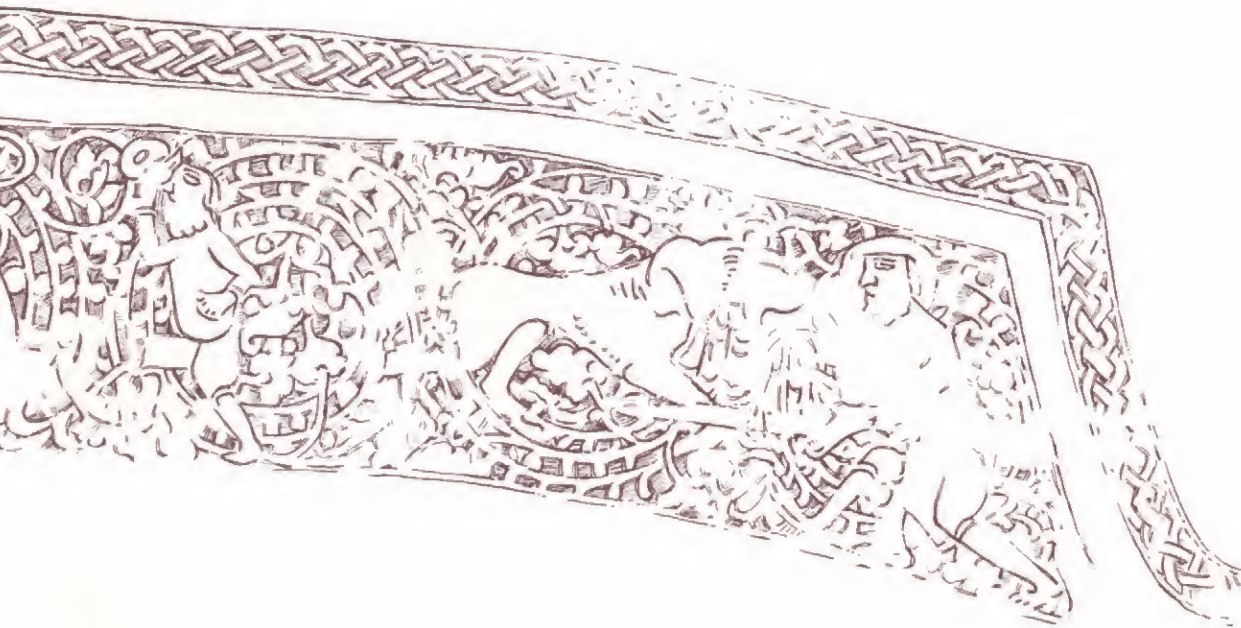


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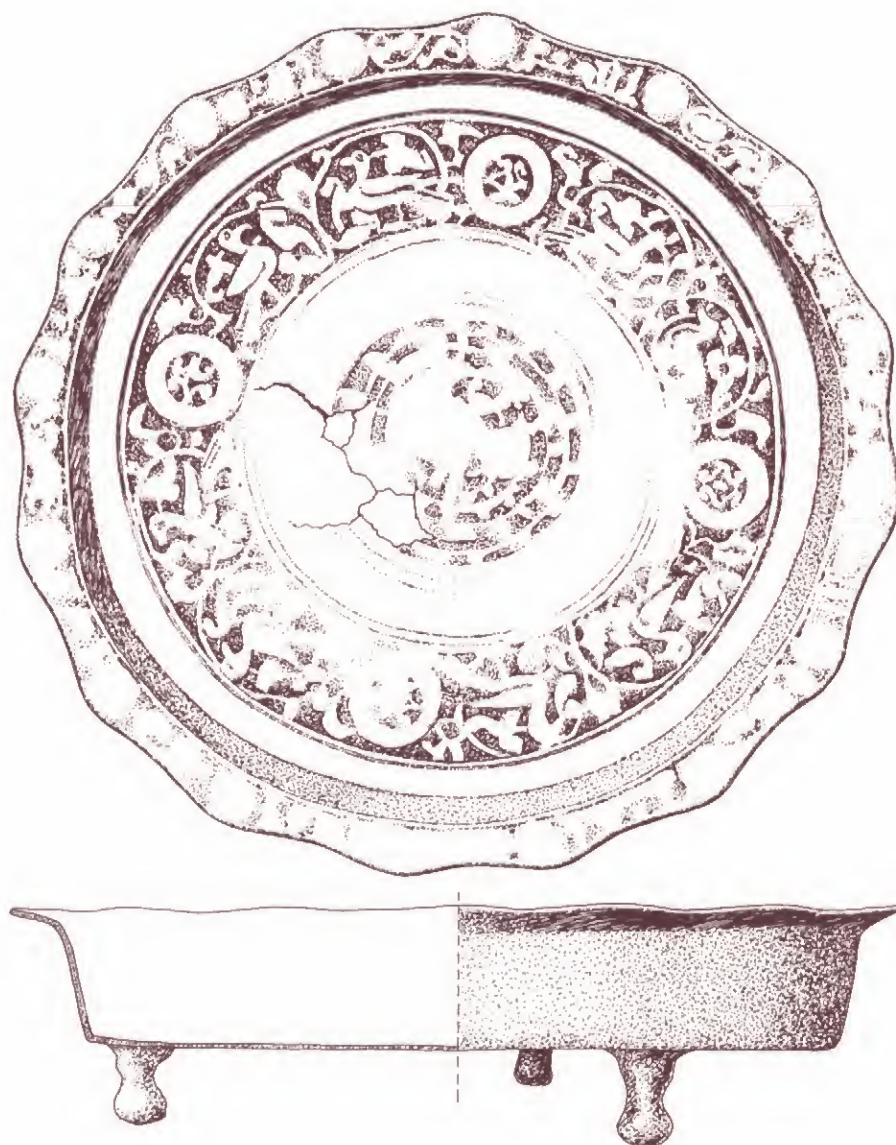


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101





Incense burners

101. Teheran; Nishapur, Qanat Tepe, near tower. Bronze; incised and pierced; h. ca. 4.5 cm. Head and neck of lion incense burner. On neck pierced decoration; hole in mouth and top of head.
102. MMA 37.40.29; Nishapur, purchase. Bronze; cast; decoration in low relief; h. ca. 4.5 cm.; diam. 17.7 cm. Flat base; circular; three short, rounded feet; low, vertical sides; flat rim with cusped edge. Center of interior decorated with concentric tendrils with leaves; band of confronted birds against leafed stem divided by roundels with stylized palmette forms; on rim scrolling stem and Kufic letter forms, alternating, with plain roundels between.

104



Jar

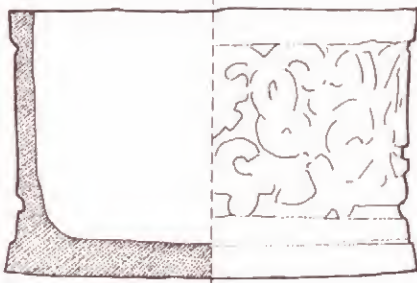
103. Teheran; Nishapur, purchase. Bronze; handle (?) missing; h. 9 cm.; diam. 8.4 cm. No foot; high-shouldered body; flaring mouth. Undecorated.

Inkwells

105



104. Teheran; Nishapur. Bronze; lid missing; diam. 3.2 cm. Cylindrical body, bulbous at bottom; horizontal inturned rim with vertical ridge for lid; three small projecting handles on body and three small feet. Undecorated.
105. MMA 40.170.116; Nishapur, Tepe Madraseh, W15 latrine in N. corner. Bronze; relief cast; probably once inlaid; h. 4.5 cm.; diam. 7.4 cm. Shallow, cylindrical with slightly splayed base; plain upper edge. Outside decorated with Kufic inscription: *mawlā al-amīr ‘Abdallāh ibn al-Ḥasan Pārsī* ("Lord, the emir, Abdallah, son of al-Hasan Parsi") backed by scrolling stems.



106



107



108



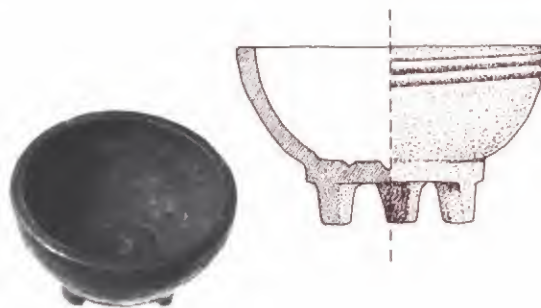
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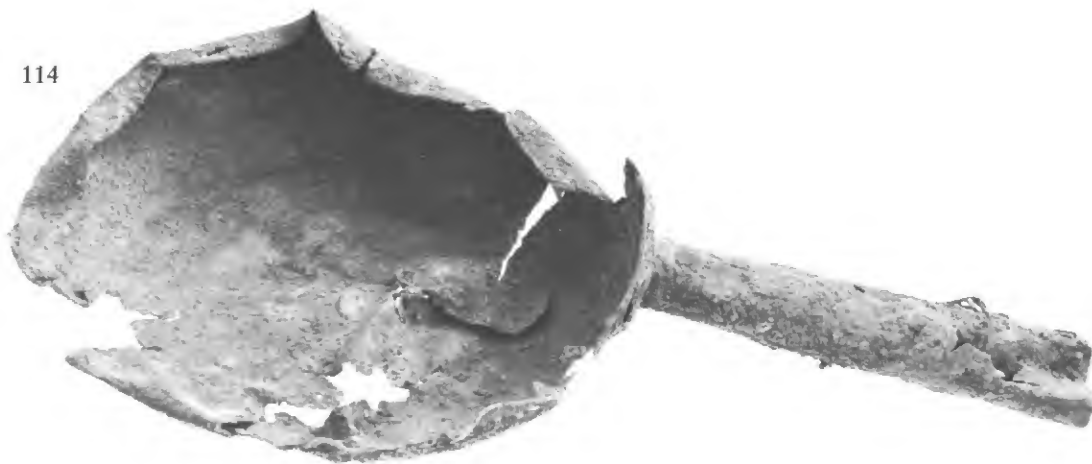
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114



115



Lamps

106. MMA 38.40.133; Nishapur, Village Tepe. Bronze; cast, probably in two pieces, body and handle; l. 15.2 cm.; h. 5.3 cm. Rounded body with open, projecting spout of triangular profile; body with central opening with low rim running into spout; ridge where spout joins body on either side; ring handle with long, diagonally projecting thumb-piece widening out into a three-leaved form; remains of low foot ring. Undecorated.
107. MMA 39.40.50; Nishapur. Bronze; cast; l. 6 cm.; w. 4.5 cm.; h. 1.7 cm. Similar in form to no. 106, but with three small feet; projection on each side of body; ring handle with small knob finial; small hole in left side of spout end. Undecorated.
108. MMA 40.170.117; Nishapur, Tepe Madraseh, drain in S8 low level. Bronze; cast; l. 11.2 cm. Boat shaped with open, pointed spout, the apparently rounded body formed by four flat horizontal faces; ring handle with bird on top.
109. Teheran; Nishapur. Bronze; handle broken; l. 11.3 cm. Rounded body with central circular opening with low rim; projecting spout with flat, open top and curving lower profile; small projection on either side of top; round projection on either side of body; ring handle, broken, with diagonally projecting thumbpiece. On base of thumbpiece diamond design between two horizontal lines.
110. Teheran; Nishapur. Bronze; l. 15 cm. Rounded and open pear-shaped body with slightly thickened rim; flat handle in form of five-leaved plant.

Miniature vessels

111. MMA 40.170.266; Nishapur, Falaki. Bronze; incised; h. 1.6 cm.; diam. 2.7 cm. Rounded body; base ring with three feet. Three incised lines around outside.
112. Teheran; Nishapur, Village Tepe. Bronze; diam. 2.5 cm. Circular; flat base; four feet; protrusions from flat rim.
113. Teheran; Nishapur, Sabz Pushan. Bronze; diam. 2.2 cm. Rounded body; flat base.

Pan

114. Teheran; Nishapur, South Horn. Bronze; l. 36 cm. Circular with handle.

Pestle

115. Teheran; Nishapur, Sabz Pushan. Bronze; cast; l. 12 cm.; diam. of base 2.6 cm. Circular; spherical handle; flared end.

116



117



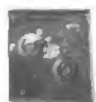
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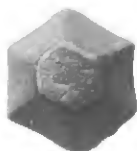
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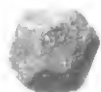
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130



Spoons

116. Teheran; Nishapur, Sabz Pushan, 8C pit. Bronze; l. 18.2 cm.; l. of bowl 4.9 cm.; w. 3.3 cm. Flat handle, widening toward end.
117. Teheran; Nishapur, Village Tepe, place 16C. Bronze; l. 20 cm.; l. of bowl 5 cm.; w. 3.4 cm. Nicks across neck; pear-shaped handle end.
118. MMA 37.40.33; Nishapur, Nasrullah's Vineyard. Bronze; l. 19 cm.; l. of bowl 3.9 cm.; w. of bowl 4.8 cm. Squarish handle. Nicks across neck.
119. MMA 39.40.108; Nishapur, South Horn, place 7. Bronze; part missing; l. of handle 14.2 cm.; w. of bowl 11 cm. Flat handle. Geometric pattern at neck. Deep bowl.

Weights

120. MMA 40.170.280; Nishapur. Bronze; cast; 1.2 x 1.2 x .4 cm.; square and flat. Two punched dotted circles on top face. 5.769 gr.
121. MMA 39.40.138; Nishapur, Tepe Madraseh. Bronze; cast; .9 x .9 x .9 cm. Cuboid; serrated edges. 5.698 gr.
122. Teheran; Nishapur, Tepe Madraseh. Bronze; cast; 1.3 x 1.3 x 1.3 cm. Cuboid; serrated edges.
123. Teheran; Nishapur. Bronze; cast; dimensions unknown. Cuboid.

124. MMA 40.170.281; Nishapur. Bronze; cast; diam. 2 cm. Fourteen faces. 28.866 gr.
125. Teheran; Nishapur. Bronze; cast; diam. 1.5 cm. Fourteen faces.
126. MMA 39.40.137; Nishapur, Qanat Tepe. Bronze; cast; diam. 1.7 cm. Twenty-six faces, each decorated with a dot and circle. 28.849 gr.
127. MMA 40.170.282; Nishapur. Bronze; cast; diam. 1.4 cm. Thirty-four faces. 14.116 gr.
128. Teheran; Nishapur. Bronze; cast; diam. 2.3 cm. Number of faces uncertain.
129. MMA 40.170.183; Nishapur, Tepe Madraseh. Bronze; cast; filled with lead; h. 3.5 cm.; diam. 2.6 cm. Domed, ringed, cylindrical form with knob at top. 90.519 gr.
130. Teheran; Nishapur, Tepe Madraseh. Like no. 129 in form.

HORSE HARNESS

131. MMA 39.40.144; Nishapur, Qanat Tepe; Allan, *Persian Metal Technology*, pl. 1b. Bronze; cast; diam. 3.1 cm. An openwork trefoil with central rivet hole.
132. MMA 40.170.212; Nishapur, Tepe Madraseh. Bronze; silvered; cast; 3.6 x 3.8 cm. A pair of horns with small plate attached with rivet hole.

131



132



133. MMA 40.170.253; Nishapur, Tepe Madraseh, T area middle level. Allan, *Persian Metal Technology*, pl. 1b. Bronze; cast; gilded; 3.6 x 2.7 cm. A pointed double leaf with central open diamond attached to simple double-leaf form by bar with central rivet hole.
134. Teheran; Nishapur. Bronze; cast; gilded; 4.9 x 3.2 cm. A palmette with openwork surround inside a cordiform border; plate with rivet hole attached; rivet hole in top.
135. Teheran; Nishapur, Qanat Tepe, 6A4. Bronze; 5.4 x 4 cm. Floriated rectangular form with trilobed protrusion at one end; three areas of openwork; two leaf forms and single rivet hole.
136. MMA 40.170.211; Nishapur, Tepe Madraseh, high level. Allan, *Persian Metal Technology*, pl. 1b. Bronze; cast; originally gilded; broken; 5.8 x 4.1 cm. Floriated rectangular form with trilobed protrusion at one end; four areas of openwork; four pointed leaf forms; two rivet holes.
137. MMA 39.40.136; Nishapur, Qanat Tepe, 6A4. Allan, *Persian Metal Technology*, pl. 1b. Bronze; cast; gilded; 8.1 x 4.7 cm. Floriated rectangular form with eleven areas of openwork and two rivet holes.
138. Teheran; Nishapur, Tepe Madraseh. Bronze; gilded; incomplete; 3 x 2.6 cm. Approximately circular with two openwork areas and protrusion.
139. Teheran; Nishapur, Village Tepe. Bronze; incomplete; 2.9 x 1.8 cm. Approximately rectangular with one openwork area and remains of two others; two leaf-shaped bulges.

SCIENTIFIC INSTRUMENTS,
TECHNICAL OBJECTS, AND WEAPONS

Quadrant

140. MMA 36.20.54; Nishapur, purchase; signed Muḥammad ibn Maḥmūd; Mayer, *Islamic Astrolabists*, p. 71. Brass; cast; incised; radius 6.5 cm. Quadrant with two sights protruding from one radius; incised on one side only with a scale of degrees, arcs of the signs of the zodiac and their names, and lines of unequal hours.



134



135



136



137



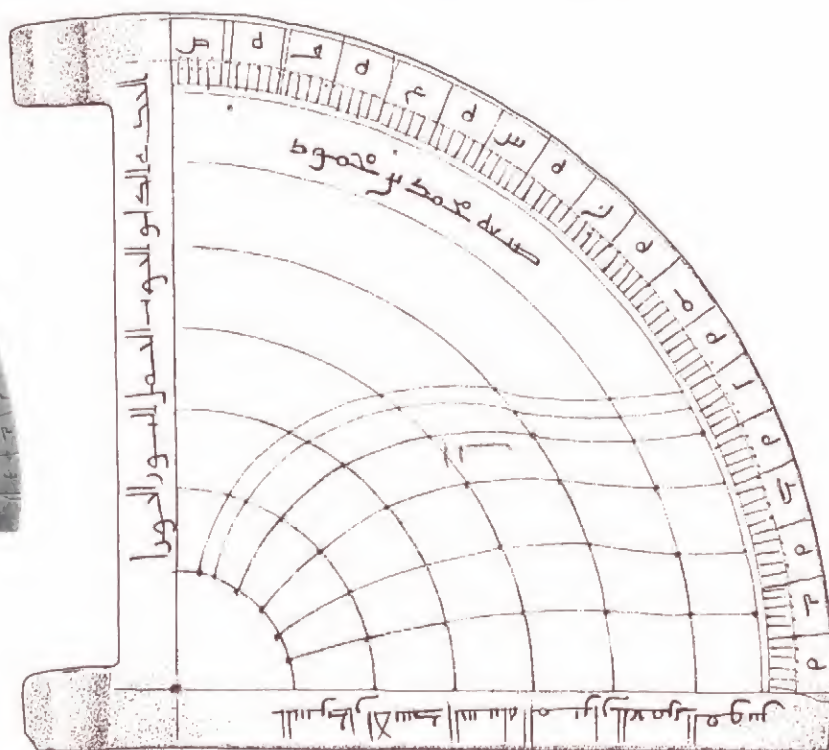
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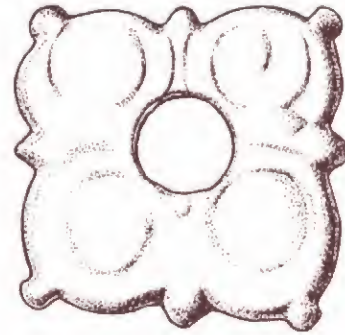




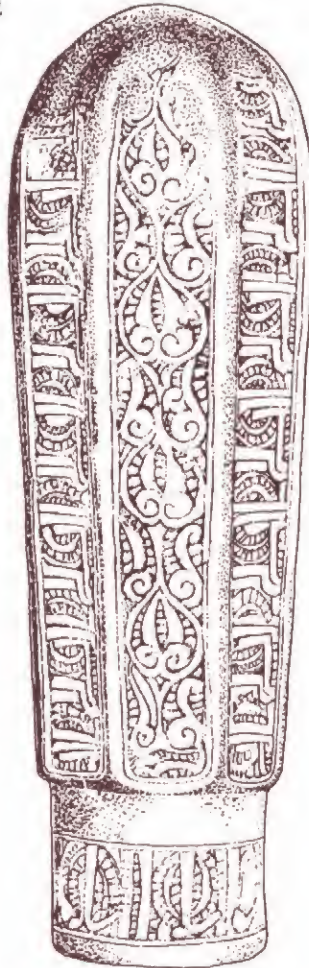
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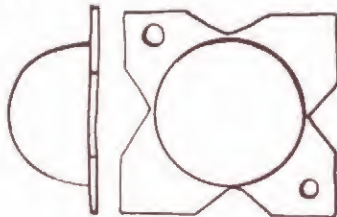
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147



Coin die

141. MMA 39.40.148; Nishapur. Bronze; cast; diam. 3 cm.; h. 1.3 cm. Coin die bearing design for an obverse; dotted edge; reversed inscriptions as follows—in center: *lā allāh illāʾllah* ("There is no god but God"), and in bordering cartouches the names of ʿAlī, ʿUmar, Abū Bakr, and ʿUthmān.

Mace head

142. Teheran; Nishapur, purchase. Bronze; cast; incised; l. 17 cm. Short, cylindrical shaft; eight-sided body widening toward pointed tip. On sides alternately a palmette design and a pseudo-Kufic inscription; around shaft an inscription, probably of good wishes.

FITTINGS FOR ARCHITECTURE, FURNITURE, AND OTHER OBJECTS

Plaques

143. Teheran; Nishapur, Tepe Madraseh. Bronze; gilded; cast (?); w. 3.7 cm.; h. 1.1 cm. Domic boss on cruciform base with two rivet holes. Undecorated.
144. MMA 40.170.275; Nishapur, Tepe Madraseh. Bronze; cast; diam. 3.6 cm. Flat ten-petaled rosette with central hole.
145. Teheran; Nishapur, Village Tepe. Bronze; w. 2.9 cm. Square plaque with quatrefoil outline and central hole. Some incising.
146. Teheran; Nishapur, Tepe Madraseh, T.O. hauz. Bronze; incised; 3.5 x 3.1 cm. Cordiform with broken projection at top; central boss; rivet hole at tip. Incised vegetal design; pearl border.
147. Teheran; Nishapur, Qanat Tepe. Bronze; 6 x 7 cm. Approximately square with projections at upper corners and projecting ornament at the lower end; central boss in the center of the upper end; four rivet holes, two with remains of rivets. Undecorated.
148. Teheran; Nishapur. Bronze; gilded; incised; broken at both ends; rivet hole; 4.7 x 3.7 cm. In the form of a palmette on a triple stem; pierced center.
149. Teheran; Nishapur. Bronze; gilded; part missing; 4.1 x 1.8 cm. Standing figure in kilt in relief beneath remains of arch.

148



149



150



150. MMA 40.170.242; Nishapur. Bronze; gilded; incised; 2.8 x 1.3 cm. Standing figure in relief.

Hinge piece

151. MMA 40.170.274; Nishapur, Tepe Madraseh. Bronze; cast; l. 2.3 cm.; w. 2 cm. Trapezium-shaped plaque with two projecting rings for hinge.

Clamp

152. MMA 40.170.259; Nishapur. Bronze; relief cast; gilded; l. 5.5 cm.; w. 2.4 cm. Clamp with pointed center and two angled pear-shaped ends; rivet hole in each end. Palmette decoration.

Finials

153. MMA 39.40.49; Nishapur. Bronze; cast; incised and inlaid with silver; l. 7.1 cm.; h. 2.4 cm. Bird with square head, folded wings, and flat, splayed tail. Decorated with palmettes and inlaid silver disks.
154. MMA 40.170.270; Nishapur. Bronze; cast; incised; tail missing; h. 3.5 cm.; l. ca. 5 cm. Bird with parrot beak on slightly rounded foot.
155. MMA 37.40.32; Nishapur, Nasrullah's Vineyard. Bronze; cast; h. 6.4 cm.; l. 4.7 cm. Bird of faceted form with bulbous cheeks and erect tail on narrow pin stem.
156. Teheran; Nishapur. Bronze; h. 5 cm. Bird with upright neck and downward-sloping tail on remains of a handle.

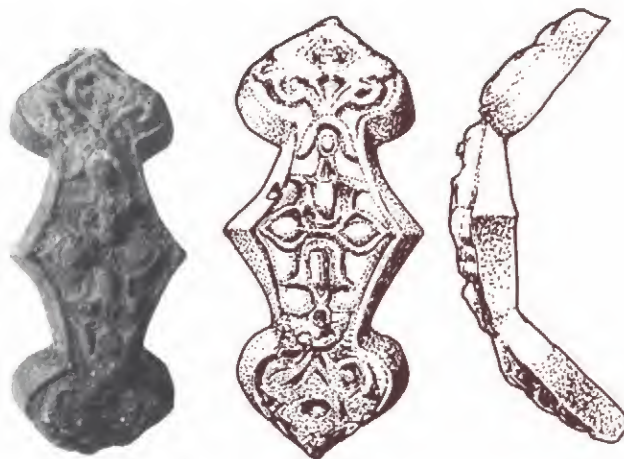
Handles

157. MMA 40.170.244; Nishapur. Bronze; cast; l. 14.5 cm.; diam. 1.5 cm. Rectangular horizontal handle; eight sided with two pear-shaped plates, each with remains of three protruding pins behind.
158. Teheran; Nishapur, Sabz Pushan. Bronze; cast; l. 17 cm.; diam. 2.8 cm. Rounded rectangular section with two pear-shaped plates and central knop.

151



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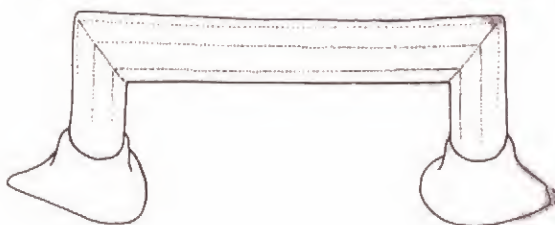


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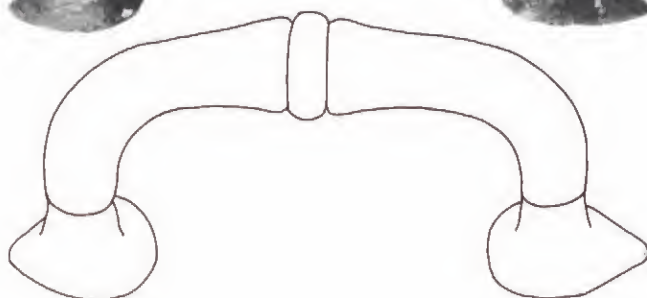
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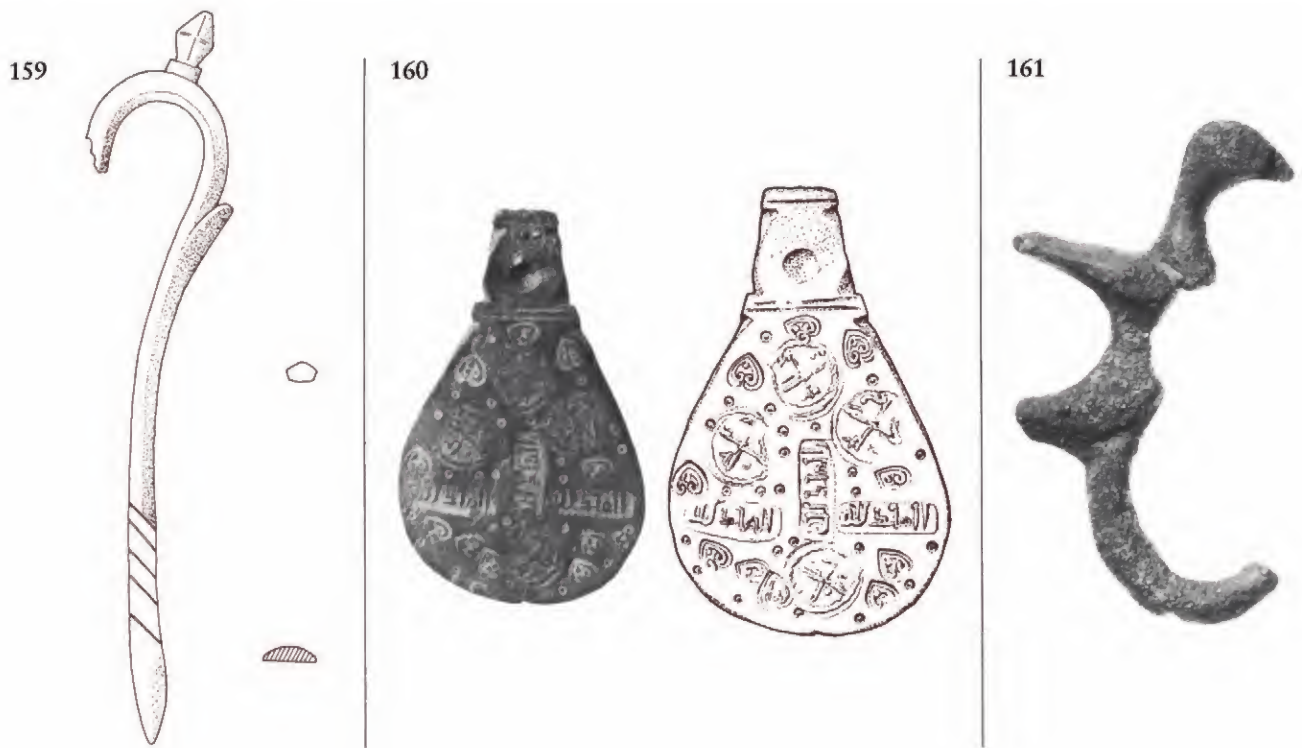


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158





159. Teheran; Nishapur, Tepe Madraseh. Bronze; cast; upper terminal missing; h. 13 cm. Open, curved handle; pointed protrusion below shoulder; double-cone finial.
160. MMA 40.170.264; Nishapur. Bronze; cast; broken off at narrow end; l. 5.5 cm.; diam. 3.5 cm. Flat and pear shaped with impressed palmettes, roundels, and rectangles; in the roundels the name *Muḥammad* written twice in a cross form; in the rectangles *al-mulk lillāh* ("Sovereignty belongs to God").

Hook

161. MMA 40.170.279; Nishapur, Sabz Pushan. Bronze; cast; arm and hook broken; h. 6.5 cm. Upward curving; finial in form of slightly faceted bird with flat body and tall, curved neck.

Key

162. MMA 39.40.134; Nishapur, Qanat Tepe. Bronze; cast; h. 7.8 cm. Key with flat lower half terminating in flat disk with two square holes in it and square indentation; square-sectioned upper half with ring attached through hole. Upper half and ring with geometric patterns.

Lids

163. Teheran; Nishapur, Sabz Pushan. Bronze; finial missing; diam. 10.4 cm. Octagonal; cusped, domed body in form of eight-petaled rosette.
164. Teheran; Nishapur, Tepe Madraseh, W15 latrine, N. corner. Bronze; diam. 8.7 cm. Cusped, domed body in form of eight-petaled rosette; tall cylindrical lower fitting.
165. Teheran; Nishapur, purchase. Bronze; incised; diam. ca. 20 cm. Domed body with flat rim. Incised Kufic inscription, probably of good wishes, around dome.

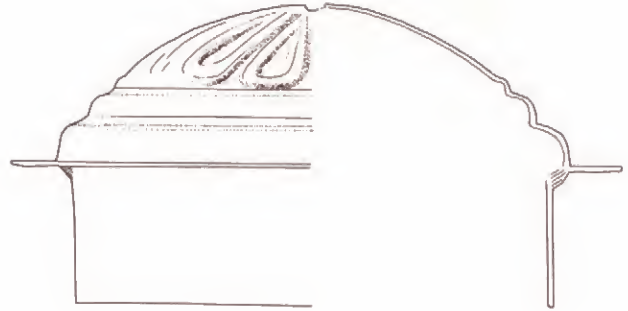
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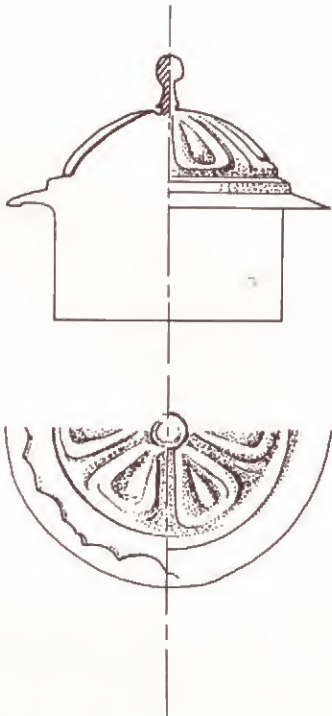
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165



166. MMA 39.40.140; Nishapur, Tepe Madraseh. Bronze; cast; incised; h. 3 cm.; l. 4.6 cm. Slightly oval form; conical body on vertical edge; flat rim; inset hinge; plain cylindrical finial. Some incised work.
167. Teheran; Nishapur, Qanat Tepe. Like no. 166, but slightly smaller.
168. MMA 40.170.276; Nishapur. Bronze; cast; hinge broken; h. 6.1 cm.; diam. 5.3 cm. In the form of two intersecting arches on a flat base; rosette on each shoulder; finial in the form of bird with folded wings.

Stopper

169. Teheran; Nishapur, Sabz Pushan. Bronze; h. 10 cm. Stopper with two flanges; double-flanged finial; long stem with hole through it. Undecorated.

Rings

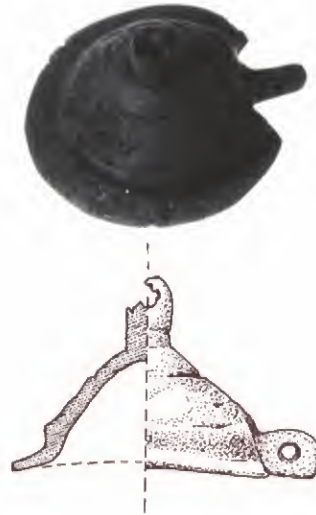
170. Teheran; Nishapur, Village Tepe. Bronze; attached to remains of bronze nail; diam. 1.8 cm. Flat section.
171. MMA 40.170.203; Nishapur, Qanat Tepe. Bronze; diam. 2 cm. Triangular section. Dot-and-circle pattern on two faces.

Rod

172. Teheran; Nishapur, Sabz Pushan. Bronze; l. 9.2 cm. Rod with domed bone finial at each end.

Support fittings

173. Teheran; Nishapur. Bronze; cast; h. 6 cm. Forequarters of a lion with flat, projecting ledge at rear; hollow back.
174. MMA 40.170.258; Nishapur. Bronze; cast; h. 6.3 cm. Forequarters of a lion with flat projection at rear; hollow back.
175. Teheran; Nishapur. Bronze; incised; h. 20 cm. Forequarters of a lion with rounded projection at rear. Stem-and-leaf design on upper legs and chest.



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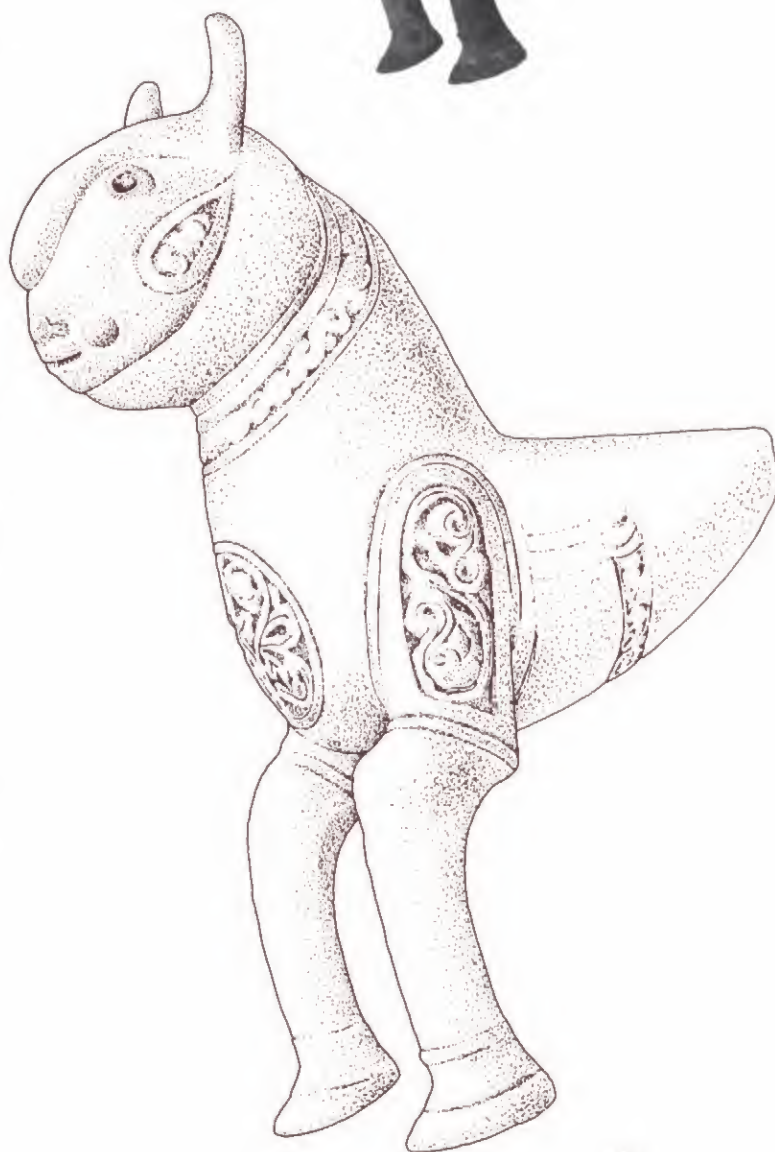
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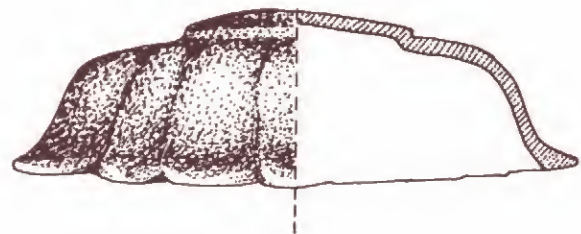
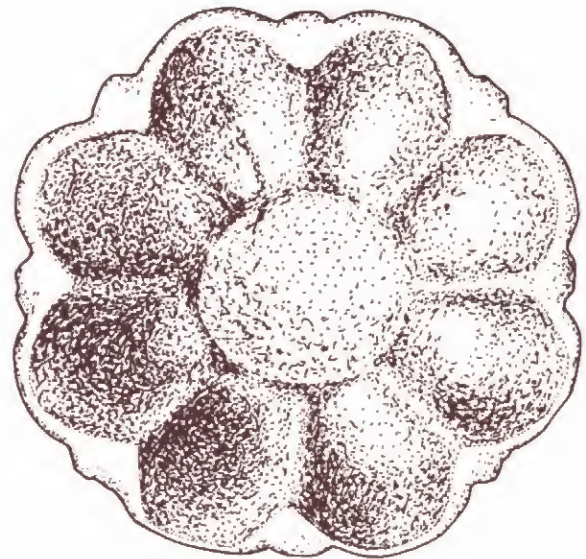
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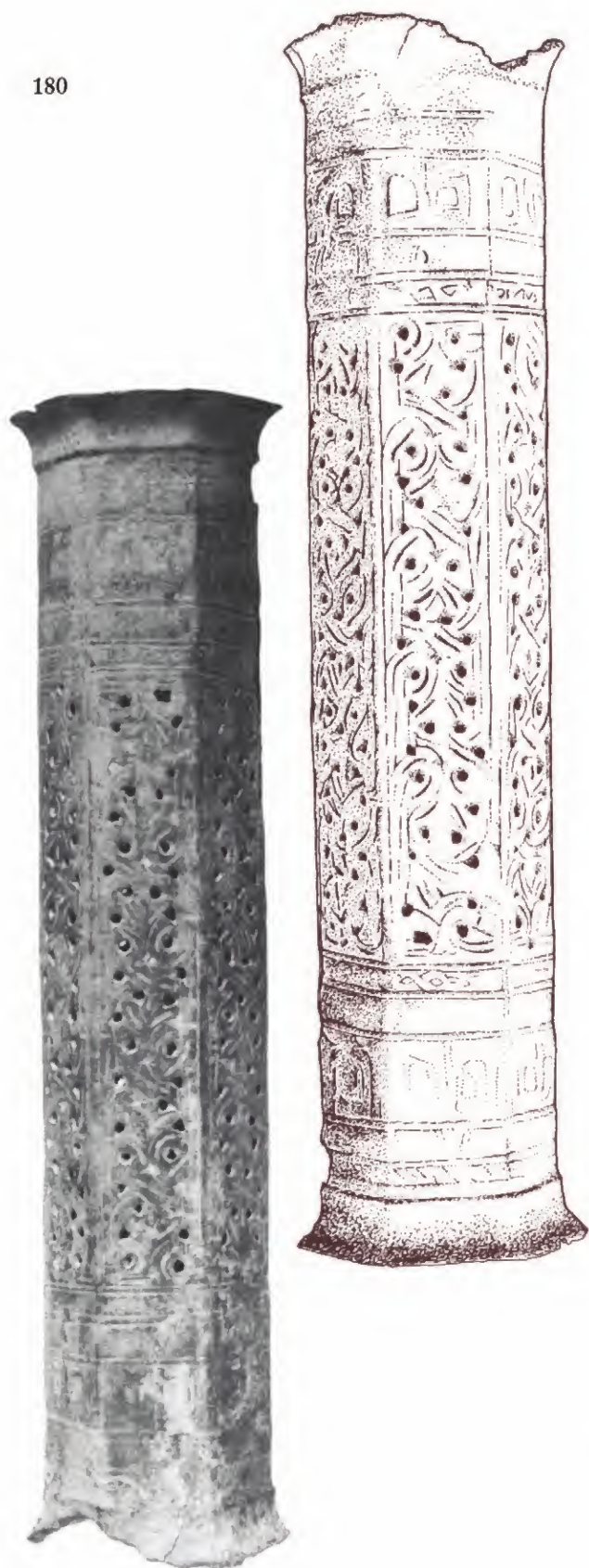
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176. Teheran; Nishapur. Bronze; h. 6 cm. Forequarters of a lion.
177. MMA 40.170.268; Nishapur. Bronze; cast; h. 9.6 cm. Stylized animal or human leg with heavy foot decorated with two small bosses; leg hollow backed; projections on either side of knee; remains of a circular object attached at top.
178. MMA 40.170.269; Nishapur, Sabz Pushan. Bronze; cast; h. 11.2 cm.; diam. 1.8 cm. Baluster leg with flattened area of half-thickness at midsection.
179. MMA 37.40.31; Nishapur, South Horn, place 6. Bronze; cast; h. 2.3 cm.; diam. 8.1 cm. Eight-lobed domed base with slightly rounded protruding top. Undecorated.

Shaft

180. Teheran; Nishapur. Bronze; pierced; incised; one end missing; l. 27.5 cm. Long, hexagonal shaft with splayed ends. Decorated with interlace pattern, palmettes, and piercing.

UNIDENTIFIED OBJECTS

181. Teheran; Nishapur, Tepe Madraseh. Bronze; incised; original diam. ca. 16 cm. Fragment of a vessel top with everted rim. Part of a cartouche incised below the rim with an arabesque. Not illustrated.
182. Teheran; Nishapur, on road to Alp Arslan. Bronze; l. 3.6 cm.; h. 4.4 cm. A goat with its front leg projecting backwards and its back leg broken off.
183. Teheran; Nishapur, Qanat Tepe, well in 1A4. Bronze; h. 4.4 cm. Head, torso, and arms of a figurine, his hands apparently in prayer position.

182



183



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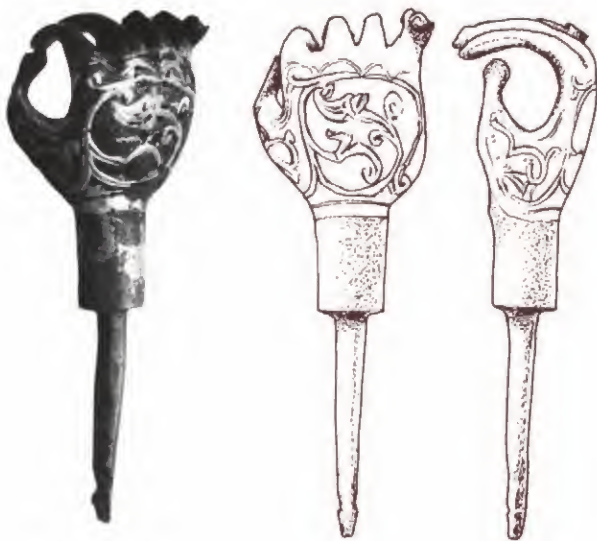
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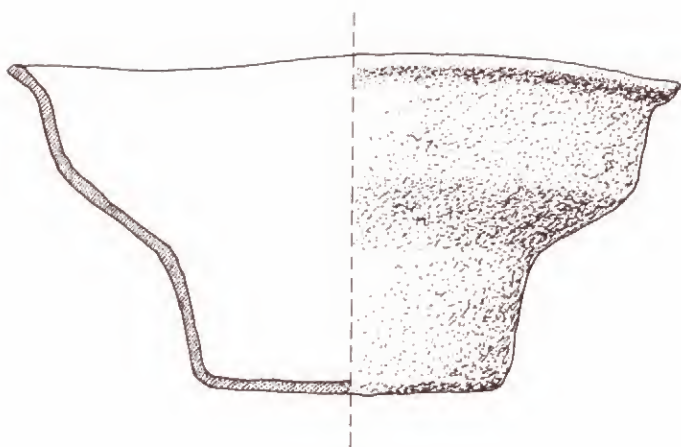


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188





184. MMA 40.170.262; Nishapur, Tepe Madraseh, S4 second level. Bronze; cast; l. 6 cm. The paw of a feline animal; hollow; broken at upper end.
185. Teheran; Nishapur, Tepe Madraseh. Bronze; diam. 4.5 cm. Small cuplike object with two rivet holes through foot and two projections with eyes for rivets, one on either side of rim.
186. MMA 40.170.251; Nishapur, Qanat Tepe. Bronze; gilded, nielloed, and inlaid with silver; cast; l. 7.1 cm. A right hand attached to a pin, the thumb and first finger almost making a circle, the last two fingers broken. Palm gilded, back of hand nielloed and inlaid in silver with arabesque.
187. MMA 40.170.115; Nishapur, Tepe Madraseh. Bronze; cast; incised; l. 6.8 cm. In the form of a shallow, hollow wing with a boss at the top and incised arabesque over the main area.
188. Teheran; Nishapur, Sabz Pushan. Bronze; cast; l. 3.6 cm. Small standing animal on flat base.

Lead Objects

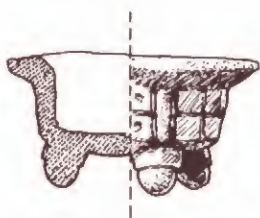
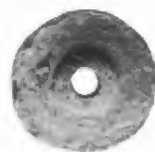
Bowls

189. Teheran; Nishapur, purchase. Lead; diam. 19.5 cm. Bowl with rounded body, everted rim, and concave-sided foot. Undecorated.
190. MMA 37.40.36; Nishapur, purchase. Lead; diam. 18.8 cm.; h. 8.5 cm. Bowl with flaring, rounded upper body and flaring mouth; flat base. Undecorated.

191



195



196



192



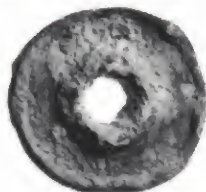
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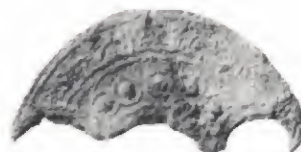
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193



199



194



200



191. MMA 48.101.15; Nishapur, purchase. Lead; h. 1.8 cm.; diam. 3.1 cm. Miniature dish; hexagonal; three legs and everted rim. Dots and squares on outside; Z ornament on rim.

Pendant

192. MMA 40.170.260; Nishapur, Tepe Madrasedh, X2. Lead; cast; diam. 3.2 cm. Circular pendant with two suspension eyes at top; blue glass setting in center. Dot-and-circle ornament on rim.

Weights

193. MMA 40.170.250; Nishapur, Village Tepe. Lead; diam. 2.4 cm. Flat disk; central hole.
194. MMA 40.170.247; Nishapur, Qanat Tepe. Lead; diam. 2.3 cm. Flat disk with rim; central hole.
195. MMA 40.170.249; Nishapur, Village Tepe. Lead; diam. 2 cm. Flat disk; tall central hole.
196. MMA 40.170.248; Nishapur, Tepe Madrasedh, R4 second level. Lead; h. 1.2 cm.; diam. 2.4 cm. Conical with central hole; four vertical ribs with remains of ornament between.
197. Teheran; Nishapur, Qanat Tepe. Lead; diam. 2 cm. Like no. 195 in form.
198. Teheran; Nishapur, Village Tepe. Lead; diam. 2 cm. Central hole. Remains of decoration.
199. Teheran; Nishapur, Qanat Tepe. Lead; half missing; diam. 4 cm. Flat. Remains of an inscription and interlacing circles.
200. Teheran; Nishapur, Village Tepe. Lead; diam. 2.8 cm. Flat disk with central hole. Remains of an inscription.
201. Teheran; Nishapur, Village Tepe. Lead; diam. 6 cm. Thick, circular disk with solid dome in center.

Iron Objects

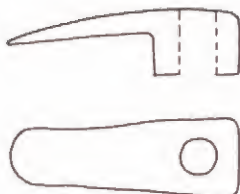
Adz- and shovel blades

202. Teheran; Nishapur, Sabz Pushan. Iron; l. 15 cm.; w. 5.5 cm. Adz head with almost straight, flat blade at right angles to thick head; central hole for handle.
203. Teheran; Nishapur, Sabz Pushan. Iron; l. 11 cm.; w. 4.3 cm. Double-bladed adz head; one flat blade, the other of ax-blade form; central hole for handle.

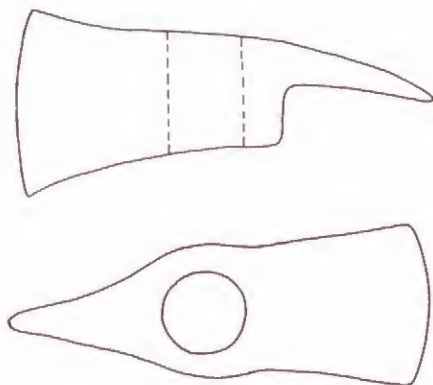
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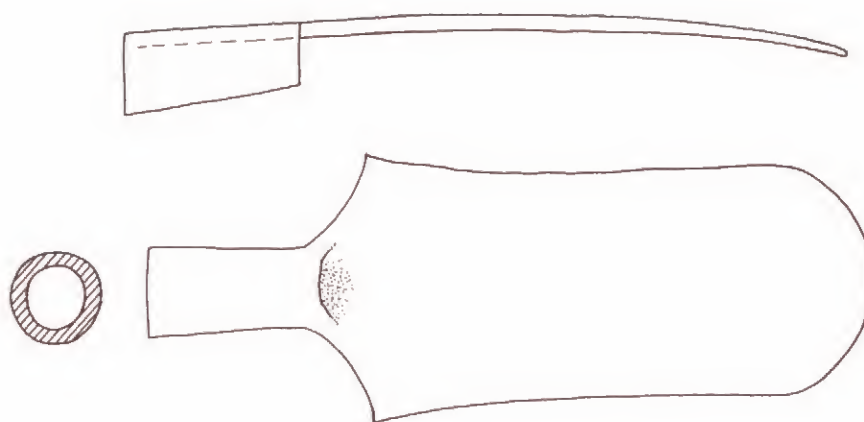


202



203





204. Teheran; Nishapur, Sabz Pushan, Z-1-Z 3X. Iron; h. 47.5 cm.; w. 18 cm. Shovel blade of rounded form with rounded end; slightly inward-curving edges and shoulders; hollow socket.

Arrowhead

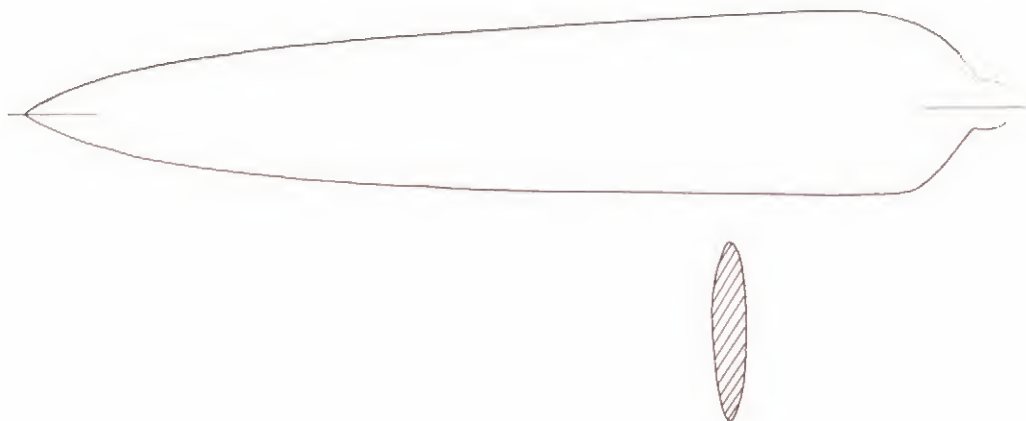
205. Teheran; Nishapur. Iron; l. 6.8 cm. Tang widens toward the head; three-flanged head. Not illustrated.

Dagger blades

206. Teheran; Nishapur, Tepe Madraseh, X14. Iron; heavily corroded; tang broken; l. 17.2 cm.; w. 3.3 cm. Double edged; widest at shoulder, narrowing evenly toward point.
207. Teheran; Nishapur. Iron; broken tang; l. 25 cm. Widest at shoulder, narrowing to point. Not illustrated.

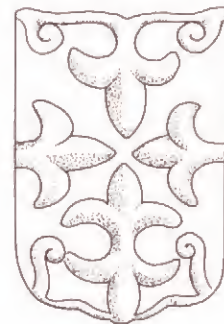
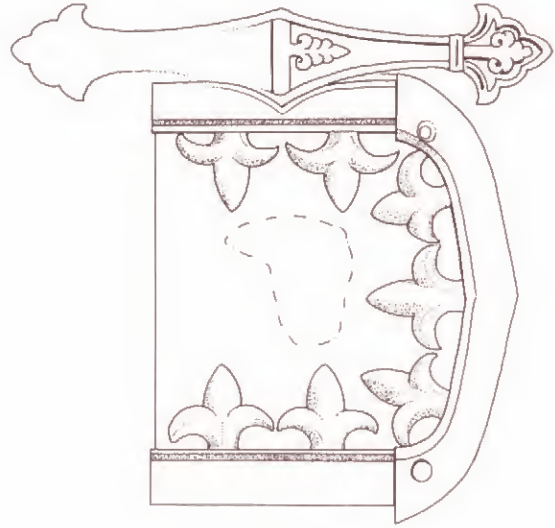
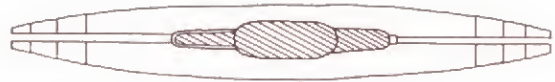
Swords

208. MMA 40.170.168; Nishapur, Tepe Madraseh, Y2 low level. Iron blade; remains of wooden sheath with two gilt-bronze mounts; gilt-bronze cross guard and hilt end; ring on boss-shaped plate (now lost); relief decoration; l. of blade 71.5 cm.; w. of cross guard 9.7 cm.; w. of blade 3.5 cm. Straight, single-edged blade; cross guard two pieces of bronze riveted together around blade tang; each half has a narrow neck before broadening out into cinquefoil quillon; bronze bands around scabbard riveted to twin mounts in the form of double-ogive brackets. Quillon and center of cross guard with leaf forms in relief; hilt end and twin mounts with trefoils in relief; ring plate may have been embossed with human face.
209. Teheran; Nishapur, Tepe Madraseh, drain in S4 annex. Iron blade; broken; original l. unknown; present l. 42 cm.; w. 6 cm.; thickness .7 cm.; tang l. 4 cm. Double edged, the edges parallel throughout existing length.





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ABBREVIATIONS

AA	<i>Artibus Asiae</i>
ABKK	<i>Amtliche Berichte aus der Königlichen Kunstsammlungen</i>
AH	<i>Archaeologia Hungarica</i>
AIUON	<i>Annali dell'Istituto Universitario Orientale di Napoli</i>
AO	<i>Ars Orientalis</i>
BCMA	<i>Bulletin of the Cleveland Museum of Art</i>
BDIA	<i>Bulletin of the Detroit Institute of Arts</i>
BGA	<i>Bibliotheca Geographorum Arabicorum</i>
BMMA	<i>Bulletin of The Metropolitan Museum of Art</i>
BMQ	<i>British Museum Quarterly</i>
BSOAS	<i>Bulletin of the School of Oriental and African Studies</i>
GBA	<i>Gazette des Beaux-Arts</i>
JARCE	<i>Journal of the American Research Center in Egypt</i>
JPk	<i>Jahrbuch der Preussischen Kunstsammlungen</i>
KO	<i>Kunst des Orients</i>
MASB	<i>Memoirs of the Asiatic Society of Bengal</i>
MMJ	<i>Metropolitan Museum Journal</i>
SI	<i>Studia Iranica</i>
ZDMG	<i>Zeitschrift der Deutschen Morgenländischen Gesellschaft</i>

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